RELATIONSHIP BETWEEN LOCUS OF CONTROL AND COPING STRATEGIES IN COMMUNITY MENTAL HEALTH OUTPATIENTS

BY

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This dissertation is dedicated to my father, Leon Mayatte, who taught me to value education and achievement and to my mother, Lucille Mayatte, who taught me to value myself.

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A study of the relationship between locus of control and mechanisms for coping with stressful events was conducted with 40 male and 60 female community mental health outpatient subjects. Responses to stressful situations were measured by the Coping Response Inventory, a 24-item rating scale developed by the researcher, based on coping response categories designated by Richard Lazarus as direct action, defensive and somatic-oriented. Locus of control was assessed by the Adult Nowicki-Strickland Internal-External Control Scale. A partial correlation analysis was conducted to determine the linear relationship between locus of control and each of five coping response categories, while controlling for sex and socioeconomic status (SES). A statistically significant relationship was found between locus of control and choice of coping responses. As internality increased, choice of direct action and functional somatic-oriented responses

increased and choice of one of two types of potentially dysfunctional somatic-oriented responses decreased. Externality was found to relate positively to choice of defensive and one of two types of potentially dysfunctional somatic-oriented responses and negatively to choice of direct action and functional somatic-oriented responses. The control variables, sex and SES, contributed little to the relationship between locus of control and coping strategies, although there was a tendency for persons of higher SES to use more direct action responses and for males to have higher SES than females. The rather low correlation coefficients, which ranged between .20 and .40, indicated that although a person's belief concerning ability to influence outcomes is a factor related to choice of responses to stressful events, it is not a major factor. Other variables not included in the hypotheses of the study which appeared to influence coping style were marital status, age and the type of problem with which a person was coping. The results of this study support Lazarus' theory that coping is a complex process which includes some combination of responses which act directly upon the stressor, responses which function to distort awareness of the stressor and reduce threat and responses which alleviate the dysphoric somatic accompaniments to coping with stressful events.

CHAPTER I
INTRODUCTION

Since the definition of stress as a biological concept by Selye (1956), social scientists from the disciplines of anthropology, psychology, sociology and medicine have amassed an impressive body of research data which established a relationship between adversive life experiences and breakdown of physical and psychological functioning. In addition to the part that they play in psychosomatic diseases, stressful life events have been shown to be related to many somatic disorders including heart disease, childhood leukemia and fractures; as well as to the psychological disorders of acute schizophrenia, neurosis, depression and suicide attempts (Andrews, Tennant, Hewson & Vaillant, 1978; Dohrenwend & Dohrenwend, 1978). Yet, despite exposure of all people to the stresses of living, which might include loss of a loved one, changes in living or work situation, financial reversals, injury, frustration or failure, only a relatively small percentage of people succumb to physical or psychological impairment. It was this knowledge that exposure to stressors alone was almost never sufficient to explain onset of illness which has led to interest in identifying those factors which mediate the impact of adversive experiences and allow the individual to adapt to or cope with demanding circumstances (Rabkin & Struening, 1976).

For the purposes of this paper Selye's definition of stress as "the state manifested by a specific syndrome which consists of all the nonspecifically-induced changes within a biologic system" (1956, p. 54)

will be adopted. This definition views stress as a physiological response of the system which is separate from those events which cause it and is of interest here primarily as a motivator to relieve the accompanying discomfort and reestablish the body's homeostasis. The causal events or stimuli to which stress is a response are referred to as stressors or stressful situations and include any number of nonspecific conditions which require change or adaptation. Although stressors may be purely physical demands upon the body, psychological stressors are of special importance because of the frequency with which individuals are faced with challenging emotional stimuli in the course of their daily lives (Selye, 1976).

While certain events such as the death of a loved one or loss of one's job are typically considered stressful by most people, there is great diversity in the degree to which the same event is considered stressful and in responses to such events. Individuals may respond quite differently to the same event depending on whether it is perceived as threatening, challenging, or of little significance to them. Threat, therefore, is not an inherent property of a stimulus but depends rather on the appraisal of its personal significance and of one's potential for mastery (Lazarus, 1964). This appraisal, which is influenced by many factors including characteristics of the stimulus, the environment and the person, determines not only the manner in which the event will be interpreted, but to a large degree, the choice of response. If an event is perceived as a serious threat to self and one's ability to reverse it is judged to be inadequate, the individual is likely to respond quite differently from one who sees the event as a challenge and feels that the capacity for mastery is high (Mechanic,

1962). This process of assessing the threat value of an event and formulating a response to it is the essence of coping. Knowledge of this process and its determinants is integral to the understanding of behavior in the face of stressful circumstances.

Coping has been variously defined as "things that people do to avoid being harmed by life strains" (Pearlin & Schooler, 1978, p. 2); "efforts to deal with some new, and often problematic, situation or encounter or to deal in some new way with an old problem" (Perlman, 1975, p. 213) and "behavior which has consequences relevant to the situational demands" (Mechanic, 1962, p. 52). Lazarus and Launier (1978) defined coping as "efforts . . . to manage (i.e., master, tolerate, reduce, minimize) environmental and internal demands, and conflicts among them, which tax or exceed a person's resources" (p. 311). The Lazarus and Launier conceptualization, which has been adopted for this study, regards coping as the product of a cognitive appraisal process whereby both the properties of the stimulus and the individual's assessment of his/her potential for mastery enter into defining a situation as stressful and formulating a response to it. Lazarus (1977) defined three types of responses to situations appraised as stressful. Direct action or instrumental responses are attempts to influence or change the harmful nature of the stimulus, defensive responses are attempts to deny or ameliorate the individual's perception of the event and somatic-oriented responses are efforts aimed at reducing the dysphoric somatic conditions which accompany the body's physiological stress response. For the purposes of this study somatic-oriented responses have been divided into those which are functional and those which are potentially dysfunctional.

Data from field studies of naturally occurring stressors and from experimental manipulations in laboratory settings have contributed greatly to the understanding of the coping process and the many variables related to it. In recent years focus has shifted to assessment and analysis of the mechanisms or dispositions which underlie coping, especially those which determine the cognitive appraisal of threat and the choice of coping strategy (Lazarus, 1974). One variable which may be viewed as an organizing or guiding principle in this regard is the individual's belief concerning the ability to control the course of life and to intervene effectively in environmental events. This belief or expectancy regarding the nature of the causal relationship between one's own behavior and its consequences has been called locus of control (Rotter, 1966). Individuals who believe that outcomes are contingent upon their own actions are labelled internals and persons who attribute what happens to them to luck, fate or powerful others are referred to as externals. Internally controlled individuals, who have a strong sense of personal efficacy, are more likely to initiate attempts to alter negative circumstances than externally controlled persons who are likely to respond in a manner consistent with their belief that very little which they do directly results in an effect (Wolk and Kurtz, 1975).

That locus of control can function as a moderator of the aversiveness of events has been shown in experimental studies with humans as well as animals (Lefcourt, 1973). These studies provide evidence that the illusion of control, even if not exercised, results in less physiological arousal as a result of exposure to aversive stimuli than when such control is lacking.

Rationale for the Study

The purpose of the present study is to identify coping strategies being used by clients seeking counseling in a community mental health facility and to relate those strategies to locus of control orientation. It is hypothesized that effective coping strategies, greater use of direct action and functional somatic-oriented responses, are related to perception of life events as internally controlled and that ineffective coping strategies, greater reliance on defensive and potentially dysfunctional somatic-oriented responses, are related to perception of life events as externally controlled. Confirmation of such a relationship, although it would not establish causation, would provide the clinician with information of value in developing therapeutic interventions for persons who are having difficulty coping with current circumstances.

The study of the coping process and its determinants is of particular relevance to the mental health clinician who provides services to persons who often enter the mental health delivery system overwhelmed by an event or series of events with which their usual coping strategies are inadequate to deal (Perlman, 1975). The client's very presence in the initial interview is evidence of a search for a new approach to handling present circumstances. Since the seeking of professional services is usually a rather late step in the process of problem resolution after other attempts have failed (Overbeck, 1977), the counseling interview offers a unique opportunity to study the attempts which clients have made and continue to make in negotiating the stressful situations with which they are actively engaged. In addition to the knowledge to be gained from such an assessment in

furthering the understanding of the coping process, such an inquiry could be very helpful to the clinician in planning effective treatment.

One of the major purposes of therapy is to help clients learn to recognize and understand the relationship between their behavior and their difficulties and to accept responsibility for initiating changes which will improve their condition (Baker, 1979). Therapeutic interventions for increasing awareness of personal responsibility and potential for having an effect on one's life events are outlined by Connolly (1980) and Stensrud and Stensrud (1981). If locus of control orientation is related to choice of coping strategies the most effective intervention might be one which combines techniques for changing perception of control with exploration and implementation of more effective coping responses.

Research Hypotheses

HA_{1A} As internality increases choice of direct action and functional somatic-oriented responses increases.

HA_{1B} As internality increases choice of defensive and potentially dysfunctional somatic-oriented responses decreases.

HA_{2A} As externality increases choice of direct action and functional somatic-oriented responses decreases.

HA_{2B} As externality increases choice of defensive and potentially dysfunctional somatic-oriented responses increases.

Definitions of Terms

Stress

Stress is "the state manifested by a specific syndrome which consists of all the nonspecifically-induced changes within a biologic system" (Selye, 1956, p. 54).

Stressor

A stressor is a causal event or stimulus to which stress is a response. Stressors may include any number of nonspecific conditions which require change or adaptation and may be either physical or psychological in nature. Physical stressors may include physical injury, disease or exposure to noxious chemicals, extreme temperature or aversive noise levels. Examples of psychological stressors include loss of a loved one, changes in one's job or living situation, financial reversals, frustration or failure.

Coping

Coping is defined as ". . . efforts . . . to manage (i.e., master, tolerate, reduce, minimize) environmental and internal demands, and conflicts among them, which tax or exceed a person's resources" (Lazarus & Launier, 1978, p. 311). Coping efforts include direct action responses, defensive responses, functional somatic-oriented responses and potentially dysfunctional somatic-oriented responses.

Direct Action or Instrumental Responses

Direct action or instrumental responses are coping efforts which are aimed directly at influencing or eliminating the harmful nature of the stimulus. Direct action responses include preparation to meet danger, attack against the harmful agent or evasion to avoid contact when threatened by an agent which is overwhelmingly powerful or dangerous. Direct action responses are most often related to positive outcomes in managing stressful situations. Examples include seeking information, analyzing the situation, exploring alternatives, consulting with others and developing a plan of action. The terms direct action and instrumental responses are used interchangeably.

Defensive Responses

Defensive responses are attempts to deny or ameliorate one's perception of an event so that threat is reduced. Threat, however, is reduced only in the mind of the individual as no action has been taken to influence the stressor. Defensive strategies are considered costly in that they distort reality and interfere with seeking adaptive alternatives. If evidence of the stressor increases, the defensive strategy may become ineffective and the threat of harm may be reinstated. Defensive responses include use of denial, projection, intellectualization or rationalization and may occur at conscious and unconscious levels. Examples include ignoring the problem, deciding that it does not really have an important effect, focusing on the concerns of others and believing that things will take care of themselves.

Somatic-oriented Responses

Somatic-oriented responses are efforts directed toward reducing the dysphoric somatic conditions which accompany the process of anticipating and responding to stressful events. Somatic accompaniments may be experienced as increased anxiety, loss of appetite, sleeplessness, impaired concentration or depressed mood state. Somatic-oriented responses help to control those discomforts which interfere with adaptive responding without distorting or denying the significance of the stressor. For the purposes of this study somatic-oriented responses have been divided into functional and potentially dysfunctional responses.

Functional somatic-oriented responses. Functional somatic-oriented responses are those which relieve somatic discomfort and which have the potential for increasing present and future coping

capacity. Examples include engaging in physical exercise, gardening, doing handwork or carpentry, reading or listening to music.

Potentially dysfunctional somatic-oriented responses. Potentially dysfunctional somatic-oriented responses are those responses which temporarily relieve somatic discomfort but which have the potential for becoming additional sources of stress themselves. Examples include drinking alcohol, smoking, taking tranquilizers or sleeping pills.

Locus of Control

Locus of control is a generalized expectancy which operates across a large number of situations regarding the causal relationship between one's own behavior and its consequences. Internal locus of control is the belief that outcomes or reinforcements are contingent upon one's own actions, while external locus of control is the belief that reinforcements are attributable to luck, fate or powerful others.

CHAPTER II
REVIEW OF THE LITERATURE

The study of the ways in which people cope with stressful life situations has been of interest to researchers in a variety of disciplines for the past 25 to 30 years. Earliest investigations often took the form of atheoretical field studies which observed how individuals coped with naturally occurring stressors such as being severely burned (Hamburg, Hamburg & deGoza, 1953), stricken with poliomelytis (Visotsky, Hamburg, Goss & Lebovits, 1961), undergoing major surgery (Abram, 1965; Janis, 1958), losing a child through leukemia (Chodoff, Friedman & Hamburg, 1964) or taking Ph.D. qualifying examinations (Mechanic, 1962). From these early observations in the field came the knowledge that the defense mechanisms played a major role in the way individuals coped with stressful events. The tendency to use denial and isolation of affect was found to be a typical component of adaptive behavior in a variety of situations which represented threat to life or to self-esteem. Janis (1958), in observing the coping behavior of patients anticipating major surgery, found that many showed no apprehension prior to surgery but felt calm and invulnerable, apparently denying or minimizing the possible dangers and threatening implications of their surgery. Along with those who typically employed denial, Janis identified two other groups--those who were extremely apprehensive and who felt highly vulnerable to bodily damage and those who were moderately fearful prior to surgery. The tendency to be either

extremely sensitive to the threatening aspects of a situation or to deny them completely was found to relate to negative postsurgical outcomes (Janis, 1958). Both styles appeared to prevent the individual from developing strategies to cope with the surgery and the post-surgical period. The group which had a moderate level of arousal concerning surgery asked for and received realistic information about what was going to happen to them and their convalescence was less difficult. In addition, this group of individuals exhibited fewer negative psychological reactions such as anger or resentfulness against their caretakers. The identification of these three coping styles spurred interest in the study of the polarities of denial and sensitization.

Two instruments were developed which measured the dimension of denial-sensitization. Byrne (1961) constructed the Repression-Sensitization (RS) Scale from Minnesota Multiphasic Personality Inventory (MMPI) items. The RS scale dichotomized individuals into those who responded to threatening situations by avoiding or denying the threat (repressors) and those who responded in similar circumstances by becoming alert to and seeking information about the threatening nature of the situation (sensitizers). Goldstein (1959) devised a sentence completion test which divided subjects into three coping styles depending on the extent to which their responses reflected a move toward or away from potentially threatening emotions. Those with personalized, specific feeling-acknowledgments were defined as copers; those with stereotyped denial or distancing of feelings, as avoiders and those who emphasized neither style, as nonspecific defenders (Andrew, 1970). Copers were similar to Byrne's sensitizers in being

hyperalert to the threatening aspects of the environment, while avoiders were like repressors in denying those aspects (Lazarus, Averill & Opton, 1974).

A number of studies using one or the other of these measures of denial-sensitization have appeared in the literature. Several of these studies were conducted with patients awaiting surgery and can be divided into two types--field studies which observed the relationship between coping strategy and postsurgical outcome and those which manipulated the situation experimentally in an attempt to influence postsurgical outcome.

Field Studies of Denial-Sensitization in Surgical Patients

Studies of this group correlated coping strategy with a recovery index which included number of days hospitalized postsurgically, number of patient-requested medications and number of minor complications. The assumption was made that patients in each study were homogeneous with regard to seriousness of condition and surgical procedure. In a study of male cancer patients considered by a physician to be similar in relation to medical condition, MacCornack (1979) found that copers did best on the recovery index, with nonspecific defenders next and avoiders having the poorest outcomes. In a second study of this type Cohen and Lazarus (1973) measured outcomes for 61 patients (22 male, 39 female) admitted for elective surgery. They found that copers showed slowest recovery, with more days hospitalized and greater frequency of minor complications, while nonspecific defenders and avoiders fared equally well. This study did not control for seriousness of surgery; therefore, the results were confounded by this oversight. A retrospective examination of the data showed that three of

the four most serious cases were in the coper group. This could account for their poorer recovery rates.

Experimental Studies of Denial-Sensitization in Surgical Patients

Three other studies of surgical patients which categorized subjects along the denial-sensitization coping dimension included an experimental manipulation. Andrew (1970) assessed outcomes for 40 males who had hernia surgery. Using Goldstein's test, patients were divided into copers, avoiders and nonspecific defenders and were provided with audiotape information about the origin of hernia, the dangers of delaying surgery; the surgical procedure and its consequences. Of the three groups nonspecific defenders fared best, staying fewest days in the hospital and requesting less medication than either other group. There was no difference between copers and avoiders on days of hospitalization; however, avoiders required more medication. DeLong (1971) assessed the effect of providing audiotape information prior to surgery, which was either consistent or inconsistent with the patient's orientation toward threatening stimuli. For copers consistent information was considered to be specific information about the impending surgery and inconsistent information was general information about the hospital. The reverse was considered consistent/inconsistent for avoiders. As predicted, copers provided with specific information did best on the recovery index and on a subjective measure of recovery. Avoiders who had been given specific information made more postoperative complaints. Regardless of the type of information given, avoiders showed slower, more complicated recoveries. Ritter (1980) also found that providing information consistent with coping style

resulted in decreased presurgical anxiety for 50 (37 male, 13 female) patients scheduled for open-heart surgery, while no change in anxiety was noted for those given inconsistent information.

Laboratory Studies Conceptualizing Coping Along Denial-Sensitization Dimension

Laboratory studies have also used the tendency to approach or to avoid threatening stimuli as a dimension along which to study the effects of the experimental manipulation of stressors. Diskin, Goldstein and Grencik (1977) divided 135 law enforcement officers into copers, avoiders and nonspecific defenders. After being further categorized into high or low anxiety groups according to scores on the Trait-State Anxiety Scale, subjects were given one of three treatments prior to exposure to a stressful film. The film depicted workshop accidents in which workers were injured and which culminated in a scene where a man died after being impaled through the abdomen by a board. Subjects in two conditions were given specific information concerning the disturbing events in the film, after being designated to either relax alone for 10 minutes or to view a travelog about marine life. The third group was immediately exposed to the film without any information about its contents nor the opportunity to relax. Arousal (stress reaction), as measured by skin conductance and subjective self-report, was greatest in the condition where no information was provided prior to the film. Highest reactivity was observed in subjects who were categorized as high anxiety copers. These subjects were also rated lowest on job performance by their supervisors, while low anxiety avoiders and nonspecific defenders received the highest job ratings.

In a design which assessed the relationship between coping style and exposure to failure, Carter (1974) divided 84 female

undergraduates into sensitizers, repressors and neutrals as measured by the Byrne RS scale. Half of each group had a successful experience with an anagram task and the other half experienced failure. Subjects filled out five rating scales designed to elicit their responses to the experience. Under conditions of failure, sensitizers reported more anxiety and greater dissatisfaction with their performance than either repressors or neutrals.

A study by Houston and Hodges (1970) observed the effect of either threat of failure or electric shock on subjects categorized as deniers, neutrals or sensitizers (accentuators). Rather than the paper and pencil instruments used by the investigators mentioned above, a behavioral measure of coping tendency was developed based on discrepancy between subjective self-support and physiological measures of stress. One hundred and eight male introductory psychology students were given the digits backwards test from the Wechler Adult Intelligence Scale and then were assigned to one of three conditions. Subjects in one condition were told that they were doing well, subjects in a second condition were told that they were doing poorly and subjects in the third condition were told that they would be given an electric shock to study its effect on blood pressure. All subjects were then given the Affective Adjective Check List as a measure of subjective discomfort. Heart rate was recorded prior to and after the threat manipulation and used as an indicator of physiological arousal. Subjects who exhibited physiological arousal which was relatively greater than their reported subjective discomfort were designated deniers (tended to deny their arousal). Subjects who reported relatively greater subjective discomfort than they evidenced physiological arousal were

designated sensitizers or accentuators (accentuated their arousal). Those individuals who showed a minimal discrepancy between the two indicators were categorized as neutrals. Effectiveness of coping style was measured by monitoring performance on a second administration of the digits backwards test. The denial group performed best under both the threat of shock condition and the failure condition, with neutrals next and sensitizers doing worst in both of the conditions. These researchers concluded that denial was an effective strategy for these subjects when confronted with threat to ego (failure) or threat of pain.

Averill and Rosenn (1972) devised a different type of operational definition of denial-sensitization for a study conducted with 80 male undergraduates anticipating and receiving electric shock. Sensitization or vigilance was defined as choosing to listen for a warning signal during anticipation of shock, while denial was defined as choosing instead to listen to music. A second measure of the tendency to avoid or approach threatening stimuli was the subject's response to three avoidant and three vigilant types of statements indicating what he was thinking about during each trial. Each subject was exposed to three different levels of shock intensity. An avoidance response was available in one condition if subjects listened for the warning signal, while in another condition shock was delivered regardless of the coping style the subject adopted. Although vigilance increased as a function of shock intensity, especially among the avoidance group, a sizable portion (30% in the avoidance condition and 50% in the nonavoidance condition) chose a denial type of response even at the highest shock intensity. These deniers who chose to listen to music were more

physiologically aroused based on heart rate and galvanic skin resistance (GSR) than those who chose the vigilant strategy of listening for the preshock signal. Subjects who listened for the tone (sensitizers) showed least arousal in the condition where they could make a response to avoid the shock (avoidance condition).

Another study which points to the tendency to adopt and persistently maintain a denial coping style in dealing with threat was reported by Niemela (1974). The GSR patterns of 15 male and 15 female subjects anticipating and receiving shock were monitored. The majority of the subjects showed anticipatory arousal prior to delivery of the shock, evidence that they were sensitized to the impending aversive event. However, six subjects showed no anticipation but exhibited a very high arousal response to the delivery of the shock. When interviewed later these subjects reported that they had denied the possibility of receiving the shock during the waiting period. A questionnaire was also administered to assess everyday stress behavior. For those who tended to use denial in the experimental situation, a pattern emerged which was characterized by avoidance of disagreeable events and failure to undertake preparation. This pattern was in contrast to that of subjects who were attuned to warnings and prepared themselves prior to the occurrence of a stressful event.

Summary of Research Conceptualizing Coping as Denial-Sensitization

The findings derived from these studies which conceptualized coping with stressful situations along an approach-avoidance dimension are admittedly inconsistent. These discrepancies may be due in some cases to failure to control relevant variables, as in the Cohen and

Lazarus (1973) study of surgical patients where the groups were not homogeneous with regard to seriousness of condition. However, despite the lack of agreement on some points, some consistent information can be extracted. These studies seem to confirm that there is a tendency for individuals to cope with a stressful situation by either avoiding or by being sensitized to and/or approaching its threatening aspects. These two styles are apparent whether coping is assessed by questionnaire or through behavioral measures. Preferences for one style rather than another within a given situation appear to be persistent regardless of the consequences. Denial seems to be a viable mechanism when threat is not extremely high, such as in performing a task in the laboratory after being told that you are doing poorly, or awaiting shock which is never delivered. Its effectiveness in controlling arousal may not hold up when the threat actually materializes, as when the shock is delivered, and may result in a more severe reaction at that point than if a more vigilant strategy had been utilized (Niemela, 1974). The effectiveness with which police officers (Diskin et al., 1977) utilized denial both in dealing with laboratory conditions of threat and in carrying out their duties, as evidenced by the high job performance ratings given avoiders by their supervisors, is difficult to explain. It is possible, however, that individuals who are self-selected into an occupation which requires them to deal with high threat situations on a daily basis may differ from the general population on some variable relevant to denial-sensitization. Such a difference if it existed would make it difficult to interpret these individuals' performances in studies organized around the denial-sensitization dimension.

Another finding of these studies has been that providing information regarding an impending threat reduces arousal when the stressor is finally confronted, particularly if that information is of a nature consistent with the individual's approach to dealing with threat related information.

Atheoretical Studies of Coping with Naturally Occurring Stressors

Additional evidence for the use of denial as a prominent coping strategy has been derived from atheoretical field studies of the ways in which individuals cope with naturally occurring stressful events. However, in contrast to the conclusions drawn from some of the studies cited above concerning the effectiveness of denial as a coping strategy, these investigations seem to highlight the high costs involved in relying on an avoidant style of dealing with stressful situations.

Chodoff et al. (1964), in a study of parents whose children were dying of leukemia or other malignant diseases, found that the use of unusually strong denial defenses was related to a distressing reaction to the child's death and to a difficult period of postmortem mourning.

Katz, Weiner, Gallagher and Hellman (1970) studied defensive coping in 30 women awaiting breast biopsy for suspected malignancy. They observed that although denial was extremely effective in relieving anxiety, avoiding somatic symptoms and allowing the patient to function adequately during the anticipatory period, those who relied on this strategy also impaired their chances of survival by waiting longest to consult their physician after discovering a lump in their breast.

Boyd, Yeager and McMillan (1973) followed a group of 27 male patients who had major reconstructive surgery for occlusive disease. These patients were observed from the period immediately prior to surgery through the

first postsurgical year. Based on the criterion of how soon he returned to work or resumed a fulfilling life, the subject was assigned to either a good or poor adjustment group. There were no differences in seriousness of surgery nor in postsurgical complications for the two groups. Based on indepth interviews and a battery of projective and objective questionnaires, the poor adjusters relied on denial to dim their awareness of or to avoid the impending threat. They perceived their doctors as omnipotent figures and took a childlike, passive attitude in their relationships with them. These patients blindly accepted the information their doctors provided, seldom sought additional information or clarification and avoided direct confrontation. When asked about the worst thing that had ever happened to them and how they dealt with it, they gave passive responses and evidenced reliance on magical thinking.

Another study which points up the ineffectiveness of denial as a primary strategy was reported by Teichman (1975). He used as his subjects 20 Israeli families who had a father, son or husband missing in action during the October 1973 Middle East war. Three coping styles were observed: 1) resignation--a negation of all hope of seeing the family member again, accompanied by engagement in bereavement behaviors; 2) extreme optimism--expression of extreme hope accompanied by seeking and accumulating selective information which strengthened their convictions; and 3) search for objective information and initiation of contact with persons in the same situation. Both resignation and extreme optimism were considered defensive strategies because they involved denial of reality and because both styles were related to extreme crisis when the family member's death was confirmed.

Janis (1965) observed that surgical patients who used denial remained emotionally calm during the period when they were able to deny the possibility of danger but reacted with intense fear or anger when the inescapable signs of danger or suffering were actually encountered. He explained the mechanism by which denial interferes with effective coping as follows:

> The arousal of anticipatory fear prior to exposure to a stressful life situation is one of the necessary conditions for developing effective inner defenses that enable the person to cope psychologically with stressful stimuli. The effectiveness of the inner defenses which are erected depends upon the degree to which the person can overcome the powerful spontaneous tendency to deny the possibility of being affected by an impending source of danger. (Janis, 1965, p. 227)

He called the anticipatory working through or preparing for an impending stressor the "work of worrying" which, like the work of mourning, enables a person to cope more effectively in the long run with the stressful experience.

Evidence for the adaptive value of anticipatory preparation motivated by arousal prior to a stressful event of quite a different nature was reported in a study of parachuters (Fenz, 1975). Skillful experienced jumpers showed an inverted V-shaped pattern of arousal and avoidance responses as measured by respiration, heart rate, GSR and responses to a word association test and a Thematic Apperception Test (TAT) with pictures of varying relevance to parachuting. The peak of arousal for these parachuters occurred in the presence of early, low relevance cues and subsided to a normal level prior to the jump. This pattern is judged to be adaptive in that good performance is highly correlated with a low level of arousal at the time of the jump.

Evidence for the Adaptive Value of Strategies Which Incorporate Denial

While undoubtedly denial of stimuli which alert one to the threatening aspects of an impending stressful situation can interfere with adaptive coping, the use of denial or other defensive strategies can at times be functional for the individual. Such a position is taken by Mechanic (1962), who did a longitudinal study of students coping with Ph.D. qualifying examinations. He followed 20 doctoral level students for a 4 month period beginning 3 months before the examinations and ending approximately 1 month after they were completed, when the results were announced. He found that those students who studied most effectively were those who were able to control their anxiety. They coped by actively seeking information about the exams, organizing their time efficiently and studying with good concentration until anxiety rose to a high enough level to interfere with active coping. At this point they employed a variety of intrapsychic and interpersonal defensive maneuvers such as avoidance of anxiety provoking stimuli, magical thinking, humor and externalization of responsibility for the outcome of the examinations. These defensive strategies helped to contain anxiety and insulate against perceived threat, thus allowing continued coping. While recognizing the dangers of excessive use of defensive strategies which might lead one to restrict oneself to the point where useful coping alternatives are avoided, Mechanic adopted the position that "adequate adaptation depends on some careful balance between coping and defensive processes" (1962, p. 211).

Similar views were expressed by Coleman (1973) and Lazarus (in press) both of whom recognized the complexity of coping and the interdependence between defensive strategies such as denial and action-oriented approaches. Coleman believed that the use of defenses such as denial, rationalization and emotional isolation facilitated the capacity to deal with stressful situations by defending against intense and disabling anxiety. Lazarus stressed that rather than equate the use of denial with pathology, as has often been done in the past, a more appropriate conclusion would be that mental health requires some self-deception.

Strategies Which Combine Denial and Action-Oriented Behaviors

That the use of a combined strategy which includes both denial and reality-oriented behavior represents the way that individuals cope with stressful circumstances has been confirmed in several studies in addition to the one by Mechanic (1962) described above. In an investigation of women undergoing mastectomy because of malignant breast tumor, Penman (1980) divided 27 patients into those who scored above and below the group mean on a coping adequacy rating based on three dimensions of coping. While the best copers exhibited a strategy which relied more on active engagement with issues raised by their diagnosis and surgery than those who coped less adequately, they also used a variety of responses which implied evasion of the meaning of their illness, including denial and rationalization. However, they used these strategies to a much lesser extent than they used action-oriented reality responses and with less frequency than poor copers did.

Sanders and Kardinal (1977) observed a similar pattern in an in-depth study of four male and two female leukemia patients whose disease was in clinical remission. In addition to reality-based strategies which included information seeking, identification with other patients and anticipatory grieving, these subjects used denial of being sick during periods away from the hospital. This use of denial was regarded as adaptive in that it countered the family's insistence on keeping the patient in a sick role and permitted a return to a more normal lifestyle during a time when he/she was feeling well. However, the use of denial in this situation had the potential for becoming problematic if it permitted patients to ignore signs of recurrence of their disease or interfered with reporting on schedule for maintenance treatment.

Another situation in which the use of denial can be adaptive is when a threatening event occurs suddenly, without warning or time for preparation. In such a case preparation time may be bought through a temporary period of self-deception which prevents the individual from being overwhelmed (Hamburg & Adams, 1967). The operation of this mechanism was observed by Hamburg et al. (1953) in their study of severely burned patients and by Visotsky et al. (1961) with individuals stricken with poliomelytis. In most patients this defensive response was noted to gradually give way to a period of active coping during which the seriousness and probable consequences of the circumstances were realistically faced.

Studies Which Emphasize the Effectiveness of Action-Oriented Strategies

While coping approaches which combine reality-based action responses with defensive ones have been shown to function well for

individuals in a variety of stressful situations, strategies which rely predominately on the former have often been associated with the most positive outcomes. An action-oriented or instrumental strategy is rational, constructive and typically takes the form of problem-solving and decision making (Coleman, 1973). The response may be one which acts upon the stressor to eliminate it, one which acts upon the individual to prepare against harm or to withdraw when threatened by an agent which is overwhelmingly powerful and dangerous (Lazarus, 1977).

Evidence that individuals who cope effectively with a number of different types of stressors most often adopt instrumental strategies has been obtained in a number of field studies. Hamburg and Adams (1967) followed a group of highly competent high school seniors through their first year of college to observe how they coped with leaving home and adjusting to college life. Two major approaches, both of which fell under the rubric of instrumental coping, emerged. These students actively sought information about the new situation, the roles they would be required to assume and the difficulties they might encounter. They also adopted a positive attitude toward their new peers and obtained support as well as information from them.

Another study of coping techniques which used college students as subjects was reported by Tanck and Robbins (1979). Using a questionnaire they assessed the responses of 83 male and 50 female undergraduates to the stressors of college life and found that the three most frequently reported behaviors were: 1) try to analyze the problem, 2) take direct action to deal with its source and 3) talk it over with friends or family. Each of these responses represented an

instrumental strategy which attempted to deal directly with the threatening event rather than escaping or avoiding it.

Further support for the adaptive value of instrumental coping was provided by Deaton, Berg, Richlin and Litrownik (1977) who studied the coping behavior of 111 naval officers and aviators who were repatriated prisoners of war (POWs). A questionnaire of behaviors engaged in during captivity was developed based on information obtained from other POWs and subjects rated each activity according to its effectiveness in dealing with solitary confinement. This group reported a strong tendency to cope by devoting efforts toward controlling, changing or mastering the environment rather than by relying on fantasy or other avoidant strategies. They rated activities related to the captor-captive relationship as most useful in coping with the situation. These included attempts to learn about their captors through observation, to anticipate their captors' next move and to develop contingencies to meet new situations as they arose. Repetitive behaviors such as talking to oneself, pacing, watching insects, ritualistic acts and withdrawal were judged to be least effective for them. The fact that these men were military officers trained to respond under conditions of war may have influenced their choice of strategies or their reporting of them.

Coping in a similar circumstance was studied by Ford (1975) who collected data on the 82-man surviving crew of the USS Pueblo, an intelligence vessel captured and held for 11 months in North Korea. Information concerning coping was derived from interview, questionnaire and subjects' reports concerning how they and other crew members fared in captivity. This information was used as the basis for

designating crew members as successful or unsuccessful copers. Successful coping consisted of the ability to defend against excessive anxiety and depression, to contribute to group support and morale and to provide realistic resistance to the captors' demands. Unsuccessful coping was defined by the presence of psychiatric symptoms, behavior detrimental to group morale and/or cooperation with captors as reported by peers. The successful copers were found to be more flexible, to make greater use of reality testing and to rely on a greater number of mechanisms than the less successful copers.

Cowie (1976) observed the adjustment process of 27 cardiac patients after a sudden, first heart attack. A major element of their coping strategy, as determined from interviews with the patients and their spouses, involved seeking information about heart disease from medical personnel and other patients and using it to reconstruct their past history so as to make sense out of their coronary. This process which involved an instrumental strategy was found to be adaptive in that it took the surprise element out of the event and made it easier to understand and accept.

One final piece of evidence which pointed up the adaptiveness of action-oriented coping was obtained in an investigation of relapsed and nonrelapsed alcoholics conducted by Rosenberg (1980). Those who continued to abstain from alcohol tended to deal with stressful events in an active, assertive manner, while those who were drinking again were found to respond to similar events with passivity and compliance.

Summary of Studies of Coping with Naturally Occurring Events

From this large group of investigations of how people deal with a variety of stressful circumstances a model of coping can be constructed. Effective coping seems to depend on the use of instrumental, reality-based responses in anticipating and confronting stressful events. To be capable of making such responses, anxiety must be kept at a manageable level. Defensive strategies which allow the coper to temporarily escape from the demands of the situation can be useful in this regard. Healthy coping appears to be based on use of a variety of responses rather than being limited to one or two and favors a style which emphasizes instrumental responses over passive or avoidant ones.

As has been shown, there is great diversity in the ways that individuals respond to stressful situations. Some primarily utilize instrumental strategies, others favor intrapsychic means of avoiding or escaping the stressor and many combine these strategies, relying on one or the other mechanism to varying degrees. An additional component of coping which has been overlooked in most of these studies was included by Lazarus (1977) in his multidimensional model of coping. These strategies, which he called somatic-oriented behaviors, are ways of reducing the affective, visceral or motor disturbances which often accompany exposure to stressful events. They are similar to defensive strategies in that they do not have an effect on the stressor but rather operate on the person to alter subjective experience. While defensive strategies deny the existence of the event or its significance for the individual, somatic-oriented strategies operate to relieve the physiological distress associated with

responding to stressful events without denying or distorting the situation. Somatic discomfort may be manifested as disturbances in sleep pattern, appetite, concentration or mood state. Somatic-oriented strategies allow the person a temporary respite from these distressing accompaniments which interfere with adaptive functioning. Such strategies can improve coping through alleviating somatic symptoms so that the individual is able to confront situations which might otherwise be avoided or escaped from. Somatic-oriented responses can be divided into those which are functional in increasing the individual's tolerance for or ability to deal with current or future stressors and those which, although capable of temporarily relieving the distressing accompaniments of the situation, also have the potential for becoming additional sources of stress themselves. Examples of functional somatic-oriented behaviors include engaging in vigorous physical exercise, practicing relaxation techniques, listening to music or pursuing a hobby such as gardening, sewing or woodworking. Potentially dysfunctional somatic-oriented behaviors include drinking alcohol, smoking cigarettes, taking tranquilizers or taking sleeping medications. While all of the latter group have the potential for becoming problems in and of themselves, Lazarus (1980) suggested that judgment of them as dysfunctional should be reserved until outcomes have been observed for the individuals using them.

Determinants of Coping Behavior

What are the factors which determine the way in which an individual responds to a potentially threatening situation? Selye (1976) writes, "in our life events, the stressor effects depend not so much upon what we do or what happens to us but on the way we take it"

(p. 370). It is "how you take it" that ultimately determines whether or not one adapts successfully to change. Whether an event will be perceived as threatening depends to a large extent on the interpretation made concerning its personal significance and the individual's assessment of his/her ability to deal with it (Lazarus, 1964). This means that the same stimulus can be regarded as threatening or benign depending on the person's appraisal of it. In the past it was frequently assumed that the severity of a stress reaction was directly proportional to the intensity of the stressor (Katz et al., 1970). Yet, there is ample evidence that this is not the case and that it is the individual's subjective judgement of the event rather than any objective criterion which determines its threat value and influences the response that one ultimately makes.

Anderson (1976) studied the responses of 93 male owners and managers whose businesses were damaged by flooding after Hurricane Agnes and found that there was a correlation between perceived severity of loss (the stressor) as measured by questionnaire, interview and coping response, but that there was no relationship between actual loss based on objective financial data and coping style. Those who perceived their losses as highest, not those who actually suffered the greatest losses, had more defensive, emotional reactions to the situation and engaged in fewer instrumental behaviors directed toward returning the business to its preflood level of performance.

Similar results were reported by Friedrich (1979) who investigated predictors of coping behavior in mothers of handicapped children. Severity of the handicap was not found to predict coping behavior nor was it found to be positively related to reported stress. Katz et al.

(1970) found that women awaiting breast biopsy for suspected breast cancer exhibited a variety of levels of affective distress and of functioning although they were all anticipating the same possibly life-threatening event.

Each of these studies which dealt with response to stressful events as a function of perceived severity found that high perceived threat was related to heavy reliance on defensive strategies. This is consonant with Menninger's (1954) statement that minor stressors are usually handled by relatively normal, healthy devices while those experiences perceived as more severe "excite the ego to increasingly energetic and expensive activity" (p. 412) in order to maintain a tolerable level of tension.

In recent years researchers have attempted to identify those factors which influence the individual's perception of an event's threat and the tendency to respond either with a reality-based strategy or an avoidant, defensive one. Two demographic variables, sex and socioeconomic status (SES), have repeatedly been observed to operate in this process.

Sex Differences in Coping Strategy

Although researchers have typically not focused on differences in coping strategies utilized by males and females, many who have analyzed their data separately for males and females have found that these groups differ. In an investigation of the way that adults cope with the role stressors of marriage, parenting, family economics and work, Pearlin and Schooler (1978) interviewed a sample of 2,300 adults representative of the population of Chicago. The criterion adopted for effectiveness of a given mechanism was its ability to prevent the

experience of distress in the presence of life strains. Distress was measured for each role area by an adjective checklist and strain was assessed in a structured interview. Males were observed more often to employ responses which inhibited stressful outcomes while females more often used mechanisms which resulted in increased distress.

Calhoun (1980) also found a difference in the way that males and females coped with marital role strains. A random sample of 434 married graduate students and nonstudent spouses completed a series of questionnaires which identified major areas of marital role strains and types of coping responses. Effectiveness of a style was determined, as in the Pearlin and Schooler (1978) study, by its association with a reduction between strains and perceived stressfulness. Although no differences were found in the effectiveness of strategies used by males and females, females reported using more responses directed toward trying to change the situation or its meaning, while males tended to avoid the problem or to resign themselves to it.

Similar results were obtained in a study of persons coping with marital dissolution (Brown, 1976). An assessment of coping strategy was conducted based on two indepth interviews with 429 males and females who contacted a court marriage counseling service. The first interview was done soon after their first contact with the service and the second, 4 months later. Respondents were assigned to one of 11 coping styles based on their behavior during the 4 month interval directed toward attaining goals stated at the first interview and on the subject's perception of how he/she dealt with the divorce situation. Men were found to rely more on denial than women. The percentage of males classified in one of two avoidance-denial styles

was 33% whereas only 5% of females were characterized by these styles. However, women were overrepresented in the three other styles which, along with denial, were associated with increased distress over the period covered by the study (13% of males as compared with 30% of females). Instrumental styles, the most effective strategies in terms of lowering distress, were utilized approximately equally by the two groups although females employed them slightly more frequently than males (52% of females compared to 46% of males). These findings along with those reported by Calhoun (1980) in regard to use of denial are inconsistent with those reported by Pearlin and Schooler (1978) who found that males used more responses indicative of self-reliance and controlled reflectiveness, while females made more responses to selectively ignore or deny their problems.

In two studies which assessed coping in college students male-female differences were also observed. Tanck and Robbins (1979) administered a self-report itemized coping style questionnaire to 83 male and 50 female undergraduates. While both groups most frequently chose instrumental responses as representative of the way they handled stressful situations, males were more likely than females to use marijuana or seek sexual comfort, while females more often than males reported that they became irritable and easily angered, spent hours thinking about the problem, ate constantly or ceased functioning effectively. Two of the responses reported more frequently by females than by males were associated with measures of anxiety and depression. Neither of the responses favored by males was associated with anxiety or depression. Anxiety and depression were measured by responses to a self-report questionnaire on which subjects were asked to indicate

their recent levels of tension and/or depression on a 4-point scale, to estimate the duration of these feelings and to report what they thought was the probable cause.

In another study which used college undergraduates as subjects, Thelen and Varble (1970) compared 28 males and 37 females who came for counseling at the campus mental health clinic with 61 male and 51 female introductory psychology students. Neither group had been in personal counseling in the past two years. Coping and defense strategies were measured by California Psychological Inventory (CPI) and MMPI items designated by Haan (1964). The client group scored higher than the psychology students on three of the seven defense scales while the psychology students scored higher than the client group on four of the seven coping scales. There were male-female differences in both groups. On the coping scales males in the nonclient group but not females scored higher than the client group on objectivity, while females but not males scored higher on concentration. On the defense scales client-group males scored higher on projection and doubt than nonclient-group males but there were no differences between females of the two groups on these scales. An unusual finding was that nonclient-group males scored higher than client-group males and females on denial.

Summary of Male-Female Differences in Coping

That there are differences in the strategies employed by males and females seems to be the only truly consistent finding in this area. Both males and females appear to rely more on instrumental strategies than on defensive ones. When a defensive strategy is chosen, males are probably more likely to use denial than females and females are

more likely than males to experience increased distress, anxiety and depression, as a result of their choice of a defensive strategy. Those who have noted greater use of instrumental styles by males than by females have attributed these differences to socialization in a culture which emphasizes active mastery of the environment more for males than for females (Brown, 1976; Pearlin & Schooler, 1978). However, from the findings reported here it is unclear that males use more instrumental strategies than females; rather the greatest differences between the two groups appears to be in the choice of defensive responses.

SES Differences in Coping Style

In addition to sex the other demographic variable which has been associated with coping style in a number of studies is SES. SES is the individual's status in the social system and is generally assessed with reference to education and occupation, which usually determine income and access to material goods and services. The relationship between SES and coping style has been consistent, with membership in higher SES groups positively correlated with effective coping. It has often been asserted that members of lower socioeconomic strata experience more stressful life events and have fewer personal and material resources with which to cope. Their families are more likely to be disrupted by separation, divorce or premature death, thus depriving them of a major source of support in handling stressful life events (Dohrenwend & Dohrenwend, 1967). Because of their lower level of education, verbal skills which facilitate manipulation of environmental circumstances may be less well-developed than in middle class persons. Evidence that lower SES members are highly vulnerable to breakdown in

coping mechanisms has been provided by two epidemiological studies of the relationship between stressful events and depressive symptomology. Brown, Bhrolchain and Harris (1975) in a study of a random sample of 200 women living in London and 114 female outpatients being treated for depression found that working class women with young children were the most likely to experience failure in their coping strategy as evidenced by the presence of clinical depression. This increased vulnerability was correlated with a high level of ongoing stressful life events and lack of psychological support from a close interpersonal relationship.

A similar finding was reported by Warheit (1979) in a two-stage study of 517 persons subsampled from 1,645 statistical probability sample of adults living in the southeastern United States. Stressful life events, coping resources (personal, familial, social and cultural) and depressive symptomology were assessed from data obtained from two interviews conducted 3 years apart, utilizing a 317-question interview schedule. Highest depression scores were found in those who experienced high rates of stressful events involving loss and that were either from the lower SES strata or did not have friends nearby to help. Low SES was found to correlate positively with both high loss and fewer personal and social resources with which to cope.

Several other investigations have noted SES differences in relation to coping effectiveness. Parent (1976) studied stress and coping in 113 male and female adults living in a southern city and found that people from lower SES groups differed from those from higher SES groups in their greater use of indirect strategies. Penman (1980), who followed mastectomy patients for 4 months after their surgery,

found that those who made the best adjustment were those who relied predominately on instrumental responses in dealing with the issues raised by their diagnosis and surgery. Although she found no differences between these women and those who used avoidant, passive or fatalistic styles on 12 of 14 demographic and health variables, there were positive relationships between adaptive coping and education and income. Finally, Brown (1976) found that positive psychological outcome during a 4 month period of marital dissolution was positively correlated with education, one measure of social class, but not with family income.

Although sex and SES are important variables which often influence the way a potentially stressful situation is appraised and responded to, an even greater influence may be exerted by the individual's judgment of the ability to master the situation.

Locus of Control as a Mediator of Responses to Stressful Events

Many who have studied variations in individual responses to similar stressful situations have been aware of the importance of belief about one's potential for influencing the environment as a determinant of whether an event will be perceived as benign or threatening and whether a strategy to change the situation or to attempt to deny or avoid it will be chosen. The person's belief about self in this regard has been mentioned as an important characteristic in interpreting and responding to stimuli by Dohrenwend and Dohrenwend (1978), Lazarus (1977), Lefcourt (1973), Pearlin and Schooler (1978) and Rabkin and Struening (1976).

The belief concerning personal efficacy has been called locus of control by Rotter (1966) who developed the Internal-External Locus of

Control Scale (I-E Scale), an instrument to measure it. The construct of locus of control is based on social learning theory and is considered to be a generalized expectancy which operates across a large number of situations regarding the nature of the causal relationship between one's behavior and its consequences (Lefcourt, 1966). When outcome or reinforcement is believed by the individual to be contingent upon personal actions, the person is designated an internal (I) and when reinforcement is attributed to luck, chance, fate or powerful others, the individual is designated an external (E). Locus of control may be considered a key determinant of the coping process in that it represents an underlying personality trait which influences perception of personal power vis-a-vis a situation and expectation concerning outcome. Persons who feel powerless to direct their own experiences are unlikely to initiate responses to take direct action to control a stressful event. They are more likely to respond in a manner consistent with their belief that little which they do will have an effect (Wolk & Kurtz, 1975). On the other hand, internally controlled persons are more apt to be alert to those aspects of the environment which provide information relevant to their future behavior and to take steps to improve environmental conditions (Rotter, 1966).

Field Studies Relating Locus of Control to Coping Strategies

A number of researchers have studied the relationship of locus of control to choice of coping strategy. Anderson (1977), in his study of male business owners'/managers' responses to flood damage (cited previously), tested the hypothesis that locus of control led to differences in perception of a stressful situation and affected performance. Subjects were given Rotter's I-E Scale and scores were correlated with

subjective perception of stressfulness and coping strategy. Perception of stressfulness was measured by the Subjective Stress Scale-Form B, a list of 14 adjectives from which the subject chooses the one which most adequately describes his/her strongest feeling about a situation. Assessment of coping was based on data obtained in a structured interview. Coping responses were assigned to one of two categories, problem solving behaviors or emotional reactions. Externals perceived greater stress and employed fewer task-oriented problem solving behaviors and more defensive behaviors than internals. Task-oriented responses were positively correlated with high levels of organizational performance in returning the business to preflood operational status. Anderson concluded that locus of control influenced performance primarily through choice of task versus emotional-oriented coping behavior.

Wolk and Kurtz (1975) in a study of 92 older adults between the ages of 60 and 85 assessed the relationship between locus of control and three separate measures of adjustment; a scale based on developmental tasks of the later years, an instrument which measured social, psychological and physiological involvement and the Life Satisfaction Index. On all three measures internals manifested higher levels of adjustment.

In a study which defined effective coping as continued good physical health despite high levels of stressful life events over a period of two years, Barber (1979) conducted an indepth interview with two groups of employees of a California school district. All had experienced crisis levels of stressors as defined by the Holmes and Rahe Social Readjustment Rating Scale (Holmes & Rahe, 1967), but the two groups differed in relation to physical well-being as assessed by a

health questionnaire. Subjects were also given the I-E Scale, along with several other personality instruments. Healthier subjects were more internal and accepted more responsibility for what happened in their lives.

Dinardo (1972) in a study of adjustment to spinal cord injury found differences in 53 hospitalized males as a function of their scores on the I-E Scale. Internals were less likely than externals to be depressed, a factor shown to favor good adjustment to spinal cord injury.

In her study of adjustment to divorce (cited above) Brown (1976) correlated coping style with locus of control for the female subjects of her sample and found that internals most often utilized instrumental styles, while the more external subjects were most often categorized as paralyzed victims because of their failure to make any behavioral attempt to change their situation.

Tanck and Robbins (1979) in their questionnaire assessment of coping in male and female college students also observed differences in strategy for externals and internals. Internal females were more likely to take direct action and to meditate, while their external counterparts were more prone to seek sexual comfort or to use alcohol as a way of dealing with the stressors of college life. External males reported daydreaming, fantasizing or seeking professional help as representative of the ways in which they behaved in stressful situations.

In a study of the ways in which people coped with depression, Rippere (1976) administered an antidepressive behavior checklist to 40 male and 40 female subjects who comprised five groups. Subjects were depressed outpatients, depressed inpatients, nondepressed outpatients,

clinical psychology graduate students and general practice medical patients. Subjects checked the number of behaviors they used when they felt depressed and evaluated each one in regard to its helpfulness. A version of the I-E Scale modified for use with British respondents was used to divide the subjects into internals and externals. No differences were found as a function of group, sex or locus of control. However, there was a significant interaction between sex and locus of control with internal males and external females reporting fewer antidepressive activities and finding fewer of these activities helpful than external males and internal females. No attempt was made to explain the unusual finding that internality in males was related to use of fewer antidepressive behaviors while internality was associated with use of a greater number of antidepressive behaviors in females.

Although Pearlin and Schooler's (1978) study of responses to four different types of role strains in the general population (cited previously) did not use the I-E Scale, mastery, which was defined as the extent to which one regards one's life circumstances as being under one's own control versus fatalistically ruled, was measured by an instrument developed by the researchers. Mastery was found to relate positively to effective coping and to achieved status, expecially education and income.

Horn (1975) investigated the adjustment of 15 high and 15 low-level functioning women to past negative experiences. Level of functioning was measured by the Personal Orientation Inventory and by factors of the Edwards Personal Preference Scale.

While the two groups did not differ in exposure to stressful negative experiences such as divorce, death, sickness, accident,

hostility and violence, their retrospective perceptions of the experiences and their personal adjustment in relation to them differed remarkably. High-level functioning women were found to be more inner directed, to have relied more often on self-help rather than professional help in coping with the negative events and were more likely to have accepted and integrated the experiences into their personality than low-level functioning women. Although locus of control was not a variable in this study, the inner directedness of the high-level functioning group is similar to the construct of internality.

Two other studies which correlated locus of control with coping mechanisms found no significant relationship between the two variables. Chamberlain (1980) studied the responses of 55 oil company executives and 20 spouses concerning stressful events which they experienced over a two week period. Using a questionnaire he obtained information about the source of stress, its perceived magnitude and how it was dealt with. Coping strategy was measured by the Byrne R-S Scale, an instrument which conceptualizes coping along a continuum of vigilance/avoidance in regard to the threatening aspects of a situation. Subjects also were administered the I-E Scale. Locus of control was not found to be a significant factor in determining perceived magnitude of stress nor in choice of coping response. Ritter (1980) also failed to find a relationship between locus of control and coping style for 37 male and 13 female patients awaiting open-heart surgery. Patients were interviewed before and after receiving preoperative information on the day before their surgery. As in the Chamberlain study, coping was assessed on the vigilance/avoidance continuum and locus of control was measured by the I-E Scale.

Experimental Studies Relating Response to Aversive Events to Locus of Control

Several studies conducted in the laboratory have investigated the relationship between locus of control and coping with stressful situations. Two such studies conducted at a Canadian university observed differences between internals and externals to experimental manipulations which attempted to deceive and embarrass subjects. Lefcourt, Gronnerud and McDonald (1973) exposed 65 male subjects, who had been solicited for participation in a test of verbal facility, to a list of words which was intended to arouse suspicion that the experimenter had been dishonest in his description of the task and intended to embarrass them. After the first 13 words which were nonsexual in nature, every third, then every second and eventually every word was a sexual double entendre. Tape recordings of response times and verbal answers were made and subjects were also videotaped through a one-way mirror so that their nonverbal behavior in response to their discovery of the experimenter's duplicity could be observed. The dependent variable was the number of humor responses made by the subject as he became aware of the true nature of the experiment. Responding with humor was considered by the researchers indicative of lack of apprehension and as an adaptive response to the situation. Internals as measured by the I-E Scale exhibited more smiles and laughter than externals who tended to respond to the situation with gravity.

In a second "double cross" experiment conducted to obtain evidence for the reliability of the results just cited, Sardoni (cited in Lefcourt, 1976) showed subjects mug shots of a series of individuals identified as criminals and asked them to identify the type of offense

committed by each. During the experiment, without the knowledge of the subject, a picture was taken of him and presented as the tenth criminal. After the presentation of the subject's photograph, three pictures of well-known political figures were shown. The purpose of the experiment was to observe the responses of internal and external subjects to evidence that they had been tricked. Internals more often responded with humor than externals, while externals more often responded with annoyance and self-consciousness. Whether these manipulations actually represented threatening situations is questionable, however, consistent differences were observed between externals and internals across the two situation.

Another experimental study which observed differences between internals and externals in a stressful situation was reported by Gal (1976). Two hundred male students were divided into Is and Es based on the I-E Scale and exposed to one of three threat conditions--shock-contingent, shock-noncontingent or no shock. In the shock-contingent condition, delivery of the aversive stimulus was contingent upon the subject's performance on a task, in the noncontingent condition shock was unavoidable and in the no shock condition, shock was not mentioned. According to GSR, skin conductance and heart rate, as well as subjective report, internals were found to be more tense performing under the shock-contingent condition than under the noncontingent condition. The reverse was true for externals. These findings were contrary to the hypotheses of the study which predicted that each group would be more comfortable performing under conditions congruent with their generalized expectancy concerning control of events.

Summary of Research Relating Locus of Control to Coping Strategy

Although these research findings do not present a totally consistent picture of the relationship between locus of control, appraisal of threat and choice of coping strategy, they do support the hypothesis that locus of control is an important variable in this regard. Most of the studies cited reported that internals perceived a situation as less stressful, exhibited lower levels of arousal and employed coping strategies which relied predominately on instrumental, problem solving techniques. Externals, on the other hand, were shown to perceive a situation as more stressful, to exhibit higher levels of physiological arousal and to use more defensive coping strategies. Internality has also been shown to correlate with the absence of physical symptoms in the presence of high levels of stressful life events, good adjustment to spinal cord injury, positive adjustment in the later years and more effective coping in a variety of naturally occurring and experimentally contrived circumstances representing threat.

Research on Coping in Mental Health Clients

Although a great deal of research has been done in the area of coping, very little is known about the process as it operates in those who seek professional help in dealing with stressful life events. The few studies which have focused on counseling clients have either been limited in scope and have overlooked the complexity of the process or have utilized very small samples. Five studies were included in the literature; two of these were conducted with student samples and three used as subjects adults seeking counseling services in community facilities.

Coelho, Silber and Hamburg (1962) assessed coping in three groups of college freshmen by means of a projective test, the Student TAT, which was developed for this purpose. Subjects included 30 male and female freshmen selected from three groups: 10 highly competent students chosen for their social, academic and interpersonal adjustment, 10 students from an English class at a state university and 10 students who were hospitalized in a psychiatric ward because of emotional difficulties experienced during their freshman year. Subjects were shown a set of slides which represented college situations which tended to be new and problematic for entering freshmen and were instructed to describe the situation which led up to the scene, what was happening at the present time, the thoughts and feelings of the characters and what the outcome would be. A coping index was developed based on the number and type of activities attributed to the hero and the favorableness of outcome. Although no significant differences were found between the two normal groups, there were differences between normals and patients with greatest differences between the patient group and the highly competent student group. Patients showed lower problem solving competence, found fewer solutions to the potentially stressful situations and projected favorable outcomes in only one-half of the situations. The normal groups coped through active effort and were optimistic about outcomes compared with the student patients who coped passively and with pessimism.

Another study which included a client group was reported by Thelen and Varble (1970) (cited above), who compared coping styles for 28 male and 37 female college students who came for treatment at the university mental health clinic and 61 male and 51 female introductory psychology

students. Items from the CPI and MMPI as designated by Haan (1964) were used as measures of coping and defense. Differences between the treatment group and the nontreatment group were found on the coping scales and on the defense scales. The nontreatment group scored higher on three of the four coping scales for which differences were observed and the treatment group scored higher on three of the four defense scales where differences were found.

Both of these studies were conducted with student populations. The former included only 10 patients and did not analyze the data separately for males and females. The latter included a larger sample and conducted separate analyses by sex. However, neither study controlled for SES nor locus of control, two variables consistently shown to be relevant to the coping process.

Three studies have appeared in the literature which focused on adults who sought mental health services at community facilities. Overbeck (1977) did an exploratory investigation of stressful antecedents to application for help at a community clinic and obtained information about the responses clients made to these events. Only three adult outpatients were interviewed along with 16 parents of children being treated in the children's unit and one adolescent client. This small sample was all female except for one father. The Social Readjustment Rating Scale (Holmes & Rahe, 1967) was administered to assess stressful life events and an indepth interview was conducted to obtain information about a number of client variables including response to stressful events. Coping strategies were divided into four broad categories: cognitive, affective, behavioral and somatic. No data were presented, however the following statement was

made with regard to coping:

> Most subjects expressed inability to cope effectively with their circumstances: several clearly found their style of coping inadequate; e.g., 'doing something' (behavior coping) did not help--there was a need to know (cognitive coping) what the trouble was; or 'I knew what was wrong but I couldn't decide how I felt about it' (affective coping); or 'everytime he did that, I would end up in bed (somatic coping) and that didn't help things'. Subjects tended to repeat compulsively their coping styles even when they were highly ineffective. (Overbeck, 1977, p. 218)

Rippere (1976) (cited previously) also conducted a study of coping mechanisms which included a small group of outpatients. Data on how individuals dealt with depression were collected by means of a checklist of antidepressive behaviors. Clients drawn from depressed outpatients, depressed inpatients, nondepressed inpatients, clinical psychology graduate students and general practice medical patients formed five groups of 16 each. Data were analyzed separately for males and females and for internals and externals. The only results presented concerned the number of antidepressive activities engaged in and the number of these found by the individual to be helpful. Depressed outpatients were not found to differ from the other groups on either of these variables. However, a significant interaction was found between locus of control and sex. Internal males and external females reported fewer responses and found less of them helpful than internal females and external males. Whether depression is actually a stressor which must be coped with is a debatable issue in itself. It has been suggested that depression represents a response to failure to cope effectively with stressful events, yet many individuals find the concomitants of depression dysphoric and initiate behaviors directed toward alleviating them.

A final study of this type was done by Brown (1976) (also cited previously). The coping behavior of 198 male and 270 female applicants to a court marriage counseling service was assessed by two in-depth interviews conducted soon after the first contact with the agency and again 4 months later. Responses to the stressor of marital dissolution and behaviors engaged in aimed at the attainment of goals stated during the first interview were assigned to one of 11 coping style categories. Results were analyzed separately for males and females. Locus of control was assessed for females and correlated with coping strategy but was not measured for the male subjects. Internal females were found to experience greater reduction of distress between the two interviews, while externals more often employed strategies which were associated with continued distress. Education and income were tested for their effect on coping for females but not for males. Coping styles differed significantly according to years of education but not according to family income. Education was positively related to effective coping with instrumental copers having a significantly higher mean level of education than those who used defensive or passive styles. Although this study did take into account sex, SES and locus of control as they related to the coping process, the primary focus was on how females coped with marital dissolution and for that reason data were not presented for males on SES or locus of control. A major shortcoming of this study was that although data were collected at two stages with clients who applied for counseling, no attempt was made to account for the effect of the counseling process on type of coping strategy used or on change in level of distress. It is likely that some clients never

returned for a second appointment while others may have participated in counseling for the entire 4 month period covered by the study.

As can be seen, more research is needed with adult clinical outpatients to fully understand how the coping process operates within this group. An adequate study must include a large representative sample and control for the relevant variables of sex, SES and locus of control. Additionally, such an investigation should use a measure of coping strategies which reflects the complexity of the coping process. The present study was designed to meet these criteria. The focus was on identifying the relationship between locus of control and coping strategies in male and female community mental health outpatients. Assessment of coping was conducted by means of an inventory developed by the researcher, based on the theoretical position of Lazarus (1977). Coping response categories included direct action, defensive, functional somatic-oriented and potentially dysfunctional somatic-oriented strategies. The following hypotheses were tested:

Null Hypotheses

HO_{1A} There is no positive linear relationship between internality and choice of direct action and functional somatic-oriented responses.

HO_{1B} There is no negative linear relationship between internality and choice of defensive and potentially dysfunctional somatic-oriented responses.

HO_{2A} There is no negative linear relationship between externality and choice of direct action and functional somatic-oriented responses.

HO_{2B} There is no positive linear relationship between externality and choice of defensive and potentially dysfunctional somatic-oriented responses.

CHAPTER III
METHOD

Subjects

Individuals who requested counseling services through the Outpatient Department of the Palm Beach County Comprehensive Community Mental Health Center, who were nonpsychotic and who had not received counseling during the preceding six months, served as subjects. Data collection was initiated December 1, 1981, and continued through June 15, 1982, when 100 questionnaires had been completed.

The demographic characteristics of the research subjects are shown in Table 1. There were no statistically significant differences in sex, race and education between these subjects and the population which is served by the Center's Outpatient Department, based on data available for the previous year beginning August 1, 1980, and ending July 31, 1981. However, a significantly larger proportion of the research subjects were younger than 30 years of age. There were also some differences between the research subjects and the outpatient population on marital status. A significantly greater proportion of the research subjects had never married and a lesser proportion were presently married. There were no differences between the sample and the Center's outpatient population in the proportion of separated/divorced and widowed subjects.

These subjects are similar to client populations served by many community mental health outpatient clinics in urban areas throughout the country with the exception of those which serve high percentages of minority group members.

Table 1

Demographic Characteristics
of Research Subjects

Group	%	Group	%
Sex		Years of education	
Male	40	< 12	20
Female	60	12-15	66
Age		≥ 16	14
< 30	51	Social class	
30-49	37	I	02
50-65	08	II	05
> 65	04	III	25
Race		IV	52
White	92	V	16
Black	06	Type of problem	
Hispanic	02	Relationship	26
Marital status		Depression	16
Single	37	Anxiety	04
Married	32	Combination of above	45
Divorced	28	Other	09
Widowed	03	Referral source	
		Self	45
		Family/friend	33
		Agency	16
		Physician	06

Instruments

Adult Nowicki-Strickland Internal-External Control Scale

The Adult Nowicki-Strickland Internal-External Control Scale (ANS-IE) (See Appendix A) was used as a measure of locus of control, an individual's tendency to perceive reinforcement as being under one's own control as opposed to attributing control to chance, fate or powerful others. The ANS-IE was developed in response to the need for a scale to overcome the problems attributed to the Rotter Locus of Control Scale (Nowicki, 1979). The Rotter scale has shown a consistent relationship to social desirability responses and to denial of psychopathology. Rotter items have also been criticized for confounding personal, social, political and ideological causation. Additionally, the difficult reading level of the scale has made it inappropriate for a large segment of the population.

The ANS-IE was constructed on the basis of Rotter's definition of the internal-external control of reinforcement dimension and contains items which describe reinforcement situations across the interpersonal and motivational areas of affiliation, achievement and dependency (Nowicki & Strickland, 1973). The scale is a paper and pencil measure consisting of 40 questions which are answered "Yes" or "No" by placing a mark in the appropriate blank next to each item. Items are written at the fifth grade reading level. Scores range from 0 through 40 with higher scores reflecting greater externality.

The scale has been administered to a variety of groups including male and female college students, community subjects, racial and ethnic groups and subjects with physical and emotional disorders.

Norms are available for each of these groups (Nowicki, 1979). The psychometric characteristics of the ANS-IE are reported below.

Item statistics. Item-total score correlations for a college sample (n = 154) and a sample of community adults (n = 33) ranged from .01 to .60 (Nowicki, 1979).

Internal consistency. Nowicki and Duke (1974) reported split-half reliabilities ranging from .74 to .86 based on a series of studies. Because the items are not arranged in order according to difficulty, the split-half reliabilities represent an underestimate of the true internal consistency reliability.

Test-retest reliability. Test-retest reliability for college students over a six weeks period was reported to be .83 (Nowicki & Duke, 1974) and .65 for a seven week period (Chandler, 1976).

Discriminative validity. ANS-IE scores were not found to be related to social desirability as measured by the Marlowe-Crowne Social Desirability Scale for two samples of college students (n = 48, r = .10; n = 68, r = .06). The relationship of ANS-IE scores to intelligence, as measured by scores on the Scholastic Aptitude Test, was also investigated and found not to be significant (n = 48, r = .11).

Construct validity. The ANS-IE and the Rotter Locus of Control Scale were administered to two college samples and one community adult sample (r = .68, df = 47, $p < .01$; r = .48, df = 37, $p < .01$; r = .44, df = 33, $p < .05$). These results are consistent with the contention that the two measures are assessing the same construct but not in an identical manner. The ANS-IE was also found to relate significantly to Levinson's Internality (r = -.24, n = 1195, $p < .01$); Powerful Others (r = .24, n = 1196, $p < .01$) and Chance (r = .40, n = 1195, $p < .01$) scales.

Additional evidence for the validity of the ANS-IE as a measure of locus of control was provided by the following findings which were predicted by social learning theory upon which the locus of control construct is based. Internality, as measured by the ANS-IE, was found by Mink (cited in Nowicki, 1979) to correlate positively with higher family income, educational and occupational levels. Blacks tended to be more external than whites even when middle class black college students were compared with middle class white students. These findings are consistent with the expectation that individuals who are restricted by social and environmental barriers and who are subjected to limited access to goods and services would develop an externally-oriented outlook on life (Joe, 1971). In the area of psychopathology, social learning theory predicts and most investigators, whether they have used the Rotter scale, the ANS-IE or other measures of control orientation, have found that externality is related to psychological maladjustment (Brannigan, Rosenberg & Loprete, 1977; Duke & Mullens, 1973; Joe, 1971). Significant differences on the ANS-IE were observed between hospitalized schizophrenics (mean = 16.30), hospitalized nonschizophrenics (mean = 11.95) and staff workers (mean = 9.20) (Nowicki & Duke, 1974). High externality scores were also correlated with high Neuroticism scores on the Eysenck scale (males, r = .36, $p < .10$; females, r = .40, $p < .05$) (Nowicki, 1979).

Coping Response Inventory

The Coping Response Inventory (CRI) (See Appendix A), a self-report of coping behaviors developed by the researcher, was used as a measure of behaviors engaged in as a response to events or situations which subjects defined as stressful. The CRI is a pencil and

paper measure consisting of 24 items which are rated on a 7-point Likert-type scale. The scale was developed based upon Lazarus' (1977) formulation of the coping process and includes categories of responses which he defined as direct action, defensive and somatic-oriented. The somatic-oriented category was divided by the researcher into two categories which have been designated as functional somatic-oriented and potentially dysfunctional somatic-oriented.

Direct action responses are efforts which are aimed directly at influencing or eliminating the harmful nature of the stressor. Defensive responses are attempts to deny or ameliorate one's perception of a threatening situation so that threat is reduced. Threat, however, is reduced only in the mind of the individual as no action is taken to influence the stressor. Somatic-oriented responses are efforts to reduce the dysphoric somatic conditions which accompany the process of anticipating and responding to stressful events. Somatic-oriented responses are directed toward alleviating somatic manifestations such as anxiety, loss of appetite, sleeplessness, impaired concentration or depressed mood state. Functional somatic-oriented responses are those which relieve somatic dysphoria and increase one's capacity for coping. Potentially dysfunctional somatic-oriented responses are those which relieve somatic discomfort but which have the potential for becoming additional sources of stress themselves.

Eight items which were judged by the researcher to be behavioral examples of these coping response categories were drawn, with permission of the authors, from a coping response questionnaire developed by Tanck and Robbins (1979). For example, "Try analyzing the problem" and "Talk the problem over with friends or family" were selected as

responses which represented direct action strategies. "Daydream or fantasize" was chosen as an example of a defensive strategy and "Engage in vigorous exercise" was selected as an example of a functional somatic-oriented response. "Take tranquilizing medicines" and "Drink alcohol" were chosen to represent potentially dysfunctional somatic-oriented responses.

Listed below are the items as they appeared on the Tanck and Robbins scale:

Try analyzing the problem.

Talk the problem over with friends or family.

Daydream or fantasize.

Engage in vigorous exercise.

Watch TV or go to a movie.

Eat constantly.

Drink alcohol.

Take tranquilizing medicines.

Two of these items were modified to avoid negative connotations. The word "fantasize" was dropped from the item "Daydream or fantasize" and the phrase "think about more pleasant things" was substituted. The word "constantly" was omitted from the item "Eat constantly" and the item was rewritten as "Eat more."

An additional 16 items were written by the researcher with the assistance of a member of the University of Florida Student Mental Health clinical staff. Each item represented an attempt to operationally define the four categories of responses specified by Lazarus (1977). These items are listed below:

Find out everything I can about the situation.

Read about how others have solved similar problems.

Consider all the alternatives.

Try to make a decision.

Focus on the concerns of others instead of my problem.

Decide that the problem doesn't really affect me.

Believe that things will take care of themselves.

Ignore the problem.

Try to relax or rest.

Read or listen to music.

Garden or work in the yard.

Take a hot bath or shower.

Do some work with my hands (sew, paint, do carpentry).

Sleep a lot.

Smoke more.

Take sleeping medicines.

These 16 items were combined with the eight items from the Tanck and Robbins scale to form the CRI.

A pilot study of the CRI was conducted to establish the reliability and validity of the instrument. The questionnaire was administered to outpatient clients of the Palm Beach County Comprehensive Community Mental Health Center (n = 50) and to nonclient community subjects (n = 102). The psychometric properties of the CRI, which are based upon this pilot study are presented below.

Test-retest reliability. Test-retest reliability coefficients for the four subscales for nonclient adults (n = 34) over a 6-week period were direct action, .90; defensive, .70; functional somatic-oriented, .80; and potentially dysfunctional somatic-oriented, .80. Coefficients for a group of community mental health clients (n = 33)

during ongoing therapy for a 6-8 week period were direct action, .65; defensive, .70; functional somatic-oriented, .60; and potentially dysfunctional somatic-oriented, .75. These lower correlations are consistent with the expectation that coping behavior is affected by the therapy process.

These reliability coefficients are based on responses to the CRI in the format of a 4-point scale with categories of "Never," Sometimes," "Usually" and "Always." Evidence that some subjects considered the four categories inadequate to describe their behavior was suggested by check marks placed on the lines which divided two categories and by responses such as "Almost Never" or "Almost Always" written on the questionnaire. In response to this feedback and in an effort to increase reliability the scale was changed from a 4 to a 7-point scale before being administered to the dissertation research subjects. "Rating scales, like test scores, tend to increase in reliability as the number of ratable categories and items increases" (Sax, 1974, p. 482).

Content validity. A list of the items grouped together according to category was sent to two groups working in the field of stress research, Dr. Richard Lazarus, Director of the Stress and Coping Project, University of California, Berkeley and Drs. Tanck and Robbins of George Washington University. Their comments as to the appropriateness of the items were requested. Feedback was elicited from these two research groups because they were engaged in research which was closely related to the topic of the present research. Dr. Lazarus was the author of the theory of coping upon which the present study is based and Drs. Tanck and Robbins (1979) published a 22-item coping response

questionnaire which they used in a study of assertiveness, locus of control and coping behaviors in college students. Eight items from the Tanck and Robbins questionnaire were included in the CRI.

Dr. Lazarus offered the following comments:

> I am glad you sent me your coping materials. You are obviously thinking along lines similar in many ways to those of my own research group. My only important criticism has to do with the prior judgment that some modes of somatic-oriented coping are inherently dysfunctional, or for that matter, functional. This indeed could be the case, but I think the decision depends on the outcomes, and perhaps on the patterning of coping employed by individuals. (Lazarus, 1980, p. 1)

In response to this feedback, the category dysfunctional somatic-oriented responses was modified by adding the word "potentially."

Dr. Robbins responded to the request sent to the Tanck and Robbins research team. He wrote:

> In general, your items seem to fit within the categories you are using . . . . I have no problems with categories 1, 3 & 4. The items seem O.K. Category 2 concerns me somewhat because it deals at least in part with unconscious processes as described by Lazarus (projection, e.g.,) and yet the items tend to be conscious decisions . . . . I like the idea of a coping inventory and I suggest a factor analysis of your items might be useful to see if they cluster along lines indicated by Lazarus. (Robbins, 1980, p. 1)

Construct validity. In response to Dr. Robbins' suggestion a principal-component factor analysis with varimax rotation was conducted on the responses of 143 pilot study subjects. This analysis verified the existence of the four coping response categories. Four factors with eigenvalues greater than 1 accounted for 75% of the total variance. Table 2 summarizes the results of the varimax rotated factor matrix.

Table 2

Pilot Study
Varimax Rotated Factor Matrix

Item	Item Loading
Direct action factor	
Talk the problem over with a friend or family member.	.33
Try analyzing the problem.	.71
Find out everything I can about the situation.	.77
Consider all the alternatives.	.70
Try to make a decision.	.75
Defensive factor	
Sleep a lot.	.40
Believe that things will take care of themselves.	.33
Ignore the problem.	.53
Get away from the problem by watching T.V.	.36
Eat more.	.33
Daydream or think about more pleasant things.	.67
Functional somatic-oriented factor	
Exercise--take a walk, jog, swim, dance.	.33
Garden or work in the yard.	.77
Do some work with my hands (sew, paint, do carpentry, etc.).	.57
Potentially dysfunctional somatic-oriented factor	
Take tranquilizing medicines.	.94
Take sleeping medicines.	.71

Note: Table includes factors with eigenvalues greater than 1.

As can be seen, items from the direct action and defensive categories clustered together as expected, providing strong evidence for the existence of these two response categories. Limited validity was provided for the two somatic-oriented categories. Only two of the six items defined by the researcher as potentially dysfunctional somatic-oriented responses clustered together. A third item from this category, "Drink Alcohol" correlated .25 with this factor. The items "Sleep a Lot" and "Eat More" clustered with items defining the defensive category. In the functional somatic-oriented category only three of six items correlated .33 or greater with each other. A fifth factor with an eigenvalue of .92 contained the remaining three items from this category. A second factor analysis which combined the pilot study data with the dissertation research data was conducted and the results of this second analysis were used in selecting the items for testing the hypotheses of the study. Results of this analysis are presented in the Data Analysis section.

Demographic Data Form

A demographic data form (See Appendix B) was used to obtain information concerning client age, sex, race, marital status, education, occupation, presenting problem and referral source. This information was used to provide a description of the demographic characteristics of the sample and in the assignment of SES scores. Determination of SES was based on the Hollingshead Two Factor Index of Social Position (Hollingshead, 1957). Occupation and education are the two factors which are used by the Index in determining SES. Occupation is presumed to reflect the skills that individuals possess as they perform the many maintenance functions of society. Education is believed to

reflect both knowledge and cultural taste. The occupational scale is divided into seven groups. Higher executives, proprietors of large concerns and major professionals are given a score of 1, proprietors of medium-sized businesses and lesser professionals are assigned a score of 2, etc., and unskilled employees are assigned a score of 7. Each category contains a detailed list of occupational titles so that assignment of an occupational score can be determined objectively. The educational scale is also divided into seven groups. Persons who have completed a recognized professional course leading to a graduate degree are given a score of 1, those who have completed a standard college or university program leading to a college degree are given a score of 2, etc., and those who have completed less than seven years of schooling are given a score of 7. The factors of occupation and education are combined to form an Index of Social Position score by multiplying each scale score by a designated factor weight and summing the two resulting scores.

Procedure

During the data collection period which began December 1, 1981, and ended June 15, 1982, all individuals who requested outpatient counseling at the Palm Beach County Community Mental Health Center were screened during the initial intake interview to determine if they met the criteria for inclusion in the research. To be eligible a client must be judged by the interviewer to be nonpsychotic and must not have been in counseling during the preceding six months.

Determination of the client's mental status was made from behavioral observation based on the Mental Status Schedule (Spitzer, Fleiss, Endicott & Cohen, 1967). Specifically the client must: 1) be

oriented as to time, place and person; 2) not display bizarre appearance or behavior (engage in rituals, talk to self, posture, grimace); 3) not show overt signs of agitation (i.e. inability to sit, pacing, accelerated speech); 4) not show evidence of disorganized thought processes (i.e. aimless or excessively detailed speech, juxtaposition of ideas with no logical relationship, rapid changes of topic so that ideas are incomplete, irrelevant and/or incoherent); 5) not present evidence of delusions or hallucinations; 6) not be emotionally withdrawn to the extent of showing visible signs of retarded speech and movement, lack of awareness of surroundings, absence of emotional responsivity.

The purpose of requiring that a client not have had counseling during the prior six months was to obtain subjects who were actively coping with a stressful situation for which they had not received professional help.

At the end of the initial interview, each of the five outpatient therapists, including the researcher, asked new clients who met the inclusion criteria to read the consent form (See Appendix C). Those who agreed to participate by signing the consent form and returning it to the therapist were given a packet which included in the following order: the demographic information form, the CRI and the ANS-IE. Subjects were instructed to complete the questionnaires in the reception room after leaving the therapist's office and to deposit them in a box provided in the reception area. The instructions were repeated on the demographic information form, the first page of the packet.

A statement included on the demographic data form reminded subjects that the questionnaires did not contain their names and would be seen only by the researcher. This statement and the collection of the completed forms in a box in the reception area were intended to assure the subjects of anonymity, thus increasing the probability of obtaining unbiased responses.

Five subjects who were eligible to participate declined to do so. Another seven subjects who agreed to participate did not return the questionnaires. Five more subjects were dropped from the analysis due to failure to respond to all of the questions. One hundred subjects' responses were included in the analysis.

Data Analysis

Scoring

Coping response inventory (CRI). A principal-component factor analysis with varimax rotation was done combining the data from the pilot study factor analysis (n = 143) with the responses of the research subjects (n = 100). Seven factors were extracted which accounted for 59% of the total variance. The results are summarized in Table 3.

Of the seven factors extracted, five defined the response categories of the study. Factor 1 represented direct action responses, Factor 2 represented functional somatic-oriented responses, Factor 3 represented avoidance responses and Factor 4 represented defensive responses of the type described by Lazarus. Factors 5 and 6 represented two forms of potentially dysfunctional somatic-oriented responses. Factor 5 represented the use of medications as a response

Table 3

Varimax Rotated Factor Matrix

Factor	Item	Item Loading
	Direct action factor	
1	Talk the problem over with a friend or family member.	.51
	Try analyzing the problem.	.73
	Find out everything I can about the situation.	.79
	Consider all the alternatives.	.75
	Try to make a decision.	.74
	Functional somatic-oriented factor	
2	Read or listen to music.	.35
	Exercise--take a walk, jog, swim, dance.	.64
	Garden or work in the yard.	.73
	Read about how others have solved similar problems.	.34[a]
	Do some work with my hands (sew, paint, do carpentry, etc.).	.65
	Avoidance factor	
3	Take a hot bath or shower.	.62
	Get away from the problem by watching T.V.	.61
	Eat more.	.58
	Daydream or think about more pleasant things.	.70
	Defensive factor	
4	Focus on the concerns of others instead of my problem.	.63
	Decide that the problem doesn't really affect me.	.73
	Believe that things will take care of themselves.	.63[b]
	Ignore the problem.	.42
	Read about how others have solved similar problems.	.36

Table 3 - continued

Factor	Item	Item Loading
	Potentially dysfunctional somatic-oriented type A factor	
5	Take tranquilizing medicines.	.84
	Take sleeping medicines.	.85
	Potentially dysfunctional somatic-oriented type B factor	
6	Believe that things will take care of themselves.	.41
	Drink more alcohol.	.65
	Smoke more.	.68
	Other somatic-oriented responses	
7	Try to relax or rest.	.70
	Read or listen to music.	.59
	Sleep a lot.	.41
	Exercise--walk, jog, swim, dance.	.34

Note: Includes factors with eigenvalues greater than 1.
[a]Item loaded approximately equally on two factors and was dropped.
[b]Item correlated signigicantly with two factors and was assigned to defensive factor.

to stress and Factor 6 represented drinking alcohol and smoking. Factor 7 represented somatic-oriented responses which did not fit the researcher's definitions of either functional or dysfunctional. Because Factors 3 and 7 did not fit into the categories defined by Lazarus, they were not used in testing the hypotheses of the study.

Factors 1, 2, 4, 5 and 6 were used in forming the subscales. Items which loaded .30 or greater on each of these factors were combined to form five subscales. The item "Read about how others solved similar problems" was dropped because it loaded approximately equally on both Factors 2 and 4. "Believe that things will take care of themselves," which also loaded significantly on two factors (.63 on Factor 4, .41 on Factor 6), was retained as a Factor 4 item. Table 4 summarizes the five subscales used in the hypothesis testing.

Subscale scores were derived by summing item scores for each subject. Item scores ranged from 0-6 with 0 points scored for a response of "Never" and 6 points for a response of "Always". Subscales had the following range of scores: 1) 0-30; 2) 0-24; 3) 0-24; 4) 0-12; 5) 0-12.

Adult Nowicki-Strickland internal-external control scale (ANS-IE). The ANS-IE is scored in the direction of externality such that higher scores represent greater external control orientation. Scores were not dichotomized into groups of externals and internals, rather the continuum of scores was used to prevent the loss of data. Listed below are the 40 items which make up the ANS-IE. One point was scored for a "Yes" response on the items which are preceded by a (Y) and one point was scored for a "No" response on the items which are preceded by a (N). Zero points were scored for other responses.

Table 4

Subscales Used in Hypothesis Testing

Number	Item
1	Direct action responses
	Talk the problem over with a friend or family member.
	Try analyzing the problem.
	Find out everything I can about the situation.
	Consider all the alternatives.
	Try to make a decision.
2	Defensive responses
	Focus on the concerns of others instead of my problem.
	Decide that the problem doesn't really affect me.
	Believe that things will take care of themselves.
	Ignore the problem.
3	Functional somatic-oriented responses
	Read or listen to music.
	Exercise--take a walk, jog, swim, dance.
	Garden or work in the yard.
	Do some work with my hands (sew, paint, do carpentry, etc.).
4	Potentially dysfunctional somatic-oriented type A responses
	Take tranquilizing medicines.
	Take sleeping medicines.
5	Potentially dysfunctional somatic-oriented type B responses
	Drink more alcohol.
	Smoke more.

(Y) Do you believe that most problems will solve themselves if you just don't fool with them?

(N) Do you believe that you can stop yourself from catching a cold?

(Y) Are some people just born lucky?

(N) Most of the time did you feel that getting good grades meant a great deal to you?

(Y) Are you often blamed for things that just aren't your fault?

(N) Do you believe that if somebody studies hard enough he or she can pass any subject?

(Y) Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?

(Y) Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do?

(N) Do you feel that most of the time parents listen to what their children have to say?

(Y) Do you believe that wishing can make good things happen?

(Y) When you get punished does it usually seem it's for no good reason at all?

(Y) Most of the time do you find it hard to change a friend's (mind) opinion?

(N) Do you think that cheering more than luck helps a team to win?

(Y) Did you feel that it was nearly impossible to change your parent's mind about anything?

(N) Do you believe that parents should allow children to make most of their own decisions?

(Y) Do you feel that when you do something wrong there's very little you can do to make it right?

(Y) Do you believe that most people are just born good at sports?

(Y) Are most of the other people your age stronger than you are?

(Y) Do you feel that one of the best ways to handle most problems is just not to think about them?

(N) Do you feel that you have a lot of choice in deciding whom your friends are?

(Y) If you find a four leaf clover, do you believe that it might bring you good luck?

(N) Did you often feel that whether or not you did your homework had much to do with what kind of grades you got?

(Y) Do you feel that when a person is angry at you, there's little you can do to stop him or her?

(Y) Have you ever had a good luck charm?

(N) Do you believe that whether or not people like you depends on how you act?

(N) Did your parents usually help you if you asked them to?

(Y) Have you felt that when people were angry with you it was usually for no reason at all?

(N) Most of the time, do you feel that you can change what might happen tomorrow by what you do today?

(Y) Do you believe that when bad things are going to happen they just are going to happen no matter what you try do do to stop them?

(N) Do you think that people can get their own way if they just keep trying?

(Y) Most of the time do you find it useless to try to get your own way at home?

(N) Do you feel that when good things happen they happen because of hard work?

(Y) Do you feel that when somebody wants to be your enemy there's little you can do to change matters?

(N) Do you feel that it's easy to get friends to do what you want them to do?

(Y) Do you usually feel that you have little to say about what you get to eat at home?

(Y) Do you feel that when someone doesn't like you there's little you can do about it?

(Y) Did you usually feel that it was almost useless to try in school because most other children were just plain smarter than you were?

(N) Are you the kind of person who believes that planning ahead makes things turn out better?

(Y) Most of the time, do you feel that you have little to say about what your family decides to do?

(N) Do you think it's better to be smart than to be lucky?

Socioeconomic status (SES). Information from the demographic information form relating to years of education and occupation was used to compute an Index of Social Position according to the Hollingshead Two Factor Index of Social Position. Each subject was assigned an occupational scale score between 1 and 7 based on the listing of occupational titles provided by the Hollingshead Index and an educational scale score between 1 and 7 also based on criteria specified by the Hollingshead Index. In accordance with Hollingshead's formula the two factors, occupation and education, were combined to form the Index of Social Position by multiplying each scale score by the following

factor weights: occupation, 7; education, 4, and summing the resulting weighted scores. The range of scores is from 11 to 77 with lower scores representing higher SES. The Index of Social Position scores can be arranged on a continuum or divided into social class groups. For the data analysis the continuum of scores was used.

Statistical Analysis

A partial correlation analysis was done using the Statistical Package for the Social Sciences (SPSS) subprogram Partial Corr (Nie, Hull, Jenkins, Steinbrenner & Bent, 1970). Partial correlation provides a single measure of association describing the relationship between two variables, while statistically adjusting for the effects of one or more control variables. The linear effect of the control variables is removed from both independent and dependent variables, creating adjusted independent and dependent variables which are uncorrelated with all control variables which have been entered.

Locus of control was defined as the independent variable. Five dependent variables were defined--direct action, defensive, functional somatic-oriented, potentially dysfunctional somatic-oriented Type A (medication) and Type B (drinking alcohol and smoking) responses. Sex and SES, two variables shown to relate consistently to coping behavior, were defined as control variables. Three partial-correlation coefficients (two first-order and one second-order partial) were computed to determine the relationship between locus of control and each category of coping behavior after variance contributed by sex and SES had been removed. For example, to determine the relationship between locus of control and direct action responses the following partials were computed:

First-order partial. Locus of control was correlated with direct action responses while controlling for sex.

First-order partial. Locus of control was correlated with direct action responses while controlling for SES.

Second-order partial. Locus of control was correlated with direct action responses while controlling for sex and SES simultaneously. Because the hypotheses were directional, one-tailed tests of statistical significance were computed for all partials.

CHAPTER IV
RESULTS

The data indicate that there is a statistically significant but small relationship between locus of control and the strategies for coping with stressful events reported by community mental health outpatient clients. A partial correlation analysis was conducted to assess the relationship between locus of control and coping strategies, while controlling for sex and SES. A significant positive linear relationship was found between internal locus of control and choice of direct action and functional somatic-oriented responses. A significant negative linear relationship was found between internal locus of control and defensive responses and one of two types of potentially dysfunctional somatic-oriented responses, the use of medication as a response to stress. No significant relationship was found between internality and a second type of potentially dysfunctional somatic-oriented response, drinking alcohol and smoking.

A significant negative linear relationship was found between external locus of control and choice of direct action and functional somatic-oriented responses. A significant positive relationship was found between externality and choice of defensive responses. Only one of two types of potentially dysfunctional somatic-oriented responses, the use of medications as a response to stressful events, showed a positive significant relationship to externality. Table 5 summarizes the results of the partial correlation analysis.

Table 5

Correlations Between Locus of Control and Coping Responses

Direct action	Defensive	Functional somatic	Dysfunctional somatic A	Dysfunctional somatic B
Simple correlations				
-.32**	.17*	-.22**	.40**	.16
Correlations controlling for sex				
-.34**	.19*	-.21*	.39**	.17*
Correlations controlling for SES				
-.31**	.19*	-.20*	.40**	.15
Correlations controlling for sex and SES				
-.33**	.20*	-.20*	.40**	.16

*$p < .05$
**$p < .01$

The first row of coefficients represents zero order partials or the simple relationships between locus of control and each of the coping response patterns. The second and third rows show the first order partials, which relate locus of control to coping responses while controlling first for sex and then for SES. The last row of coefficients is second order partials, which represent the relationships between the independent and dependent variables while controlling for sex and SES simultaneously. As can be seen, the control variables contributed very little variance to the relationship between the independent variable and the dependent variables. Therefore, the relationship between locus of control and the five coping response styles exists virtually independently of sex or SES.

Table 6 presents the relationships between the control variables, sex and SES, between sex and the correlation variables and between SES and the correlational variables. There was a statistically significant relationship between SES and direct action strategies (r = -.19, df = 98, p = .03) with subjects of higher social class reporting more of these responses than subjects of lower social classes. Sex was also found to relate significantly to SES (r = .22, df = 98, p = .02) with males having higher SES scores than females.

Direct Action Responses

Subjects with low scores on the ANS-IE (high internality) chose more direct action responses than those with high scores (high externality) (r = -.33). Internal subjects, more often than their external counterparts, reported talking a problem over with a friend or family member, trying to analyze the problem, finding out everything they could about the situation, considering all the alternatives and trying

Table 6

Relationship Between Control Variables and Correlational Variables

	Sex	SES
Locus of control	.10	.15
Direct action responses	.15	-.19*
Defensive responses	-.13	-.07
Functional somatic-oriented responses	-.07	-.14
Dysfunctional somatic-oriented responses		
Type A	.06	.00
Type B	-.11	.09
Sex	1.00	.22*
SES	.22*	1.00

*$p < .05$

to make a decision, as responses to events which caused them to feel tense or upset. Both internals and externals reported using these types of responses more frequently than other coping strategies. Direct action responses accounted for 16.7% of total variance, the highest percentage of variance contributed by a factor of the CRI.

Defensive Responses

High scores on the ANS-IE (high externality) were significantly related to the choice of behaviors which had the effect of denying the stressor or its personal significance or ameliorating the subject's perception of it (r = .20). Externals, more frequently than internals, reported focusing on the concerns of others instead of their problem (projection), deciding that the problem did not really affect them (rationalization), believing that things would take care of themselves (rationalization) and ignoring the problem (denial).

Functional Somatic-Oriented Responses

Internals, more than externals, reported using the following responses which have the effect of relieving the dysphoric somatic accompaniments of stressful events while increasing future capacity for coping (r = -.20): "Read or listen to music," "Excercise--take a walk, jog, swim, dance," "Garden or work in the yard" and "Do some work with my hands (sew, paint, do carpentry, etc.)."

Potentially Dysfunctional Somatic-Oriented Responses--Type A

High scores on the ANS-IE (externality) were related to use of sleeping pills and tranquilizers (r = .40) as methods of relieving the somatic discomfort associated with anticipating or responding to stressful situations.

Potentially Dysfunctional Somatic-Oriented Responses--Type B

The relationship between locus of control and increased use of drinking alcohol and smoking to relieve the somatic distress associated with aversive situations failed to reach an acceptable level of significance. However, the relationship was in the expected direction with externals reporting more frequent use of these responses than internals (r = .16, df = 96, p = .06).

CHAPTER V
DISCUSSION

Locus of control is a statistically significant variable in the choice of coping responses reported by community mental health outpatient clients. As internality increased the use of direct action and functional somatic-oriented responses increased. These findings support Research Hypothesis 1A. As internality increased the use of defensive responses and one type of potentially dysfunctional somatic-oriented response, the use of medication as a response to stress, decreased. There was also a decrease in drinking alcohol and smoking with increased internality; however, this relationship was not statistically significant (r = -.16, df = 96, p = .06). These results only partially support Research Hypothesis 1B.

As predicted by Hypothesis 2A, greater externality was related to decreased use of direct action and functional somatic-oriented responses. The prediction of Hypothesis 2B, of a significant positive relationship between external locus of control and choice of defensive and potentially dysfunctional somatic-oriented responses, was only partially supported. The hypothesized relationship between externality and use of defensive strategies was observed. However, only one of two types of potentially dysfunctional somatic-oriented responses, the use of medication, was significantly and positively related to externality. The relationship between externality and drinking alcohol and smoking as a response to stress was in the expected direction but failed to reach an acceptable level of significance (r = .16, df = 96, p = .06).

The magnitudes of the correlations between locus of control and coping mechanisms, which ranged from .20 for defensive and functional somatic-oriented responses and .40 for potentially dysfunctional somatic-oriented--Type A responses (see Table 5), indicate that although locus of control is a statistically significant variable related to the choice of coping mechanisms it is not a major factor.

These findings offer limited support for Lazarus' (1964) theory that personal perception of one's potential for mastery is a significant factor related to coping strategy. Persons who believed that outcomes were contingent on their behavior (internals) chose more effective coping strategies than those who attributed outcomes to chance, fate or powerful others (externals). Internals used more direct action and fewer defensive responses than externals. Similar results have been reported by Anderson (1977), Brown (1976) and Pearlin and Schooler (1978). These results differ from those of Chamberlain (1980) and Ritter (1980), who found no relationship between locus of control and coping mechanisms. The finding that management of dysphoric somatic accompaniments of stress was also handled more effectively by internals had not been reported previously, as no studies of this type of coping response were found in the literature.

This study supports Lazarus' (1977) theory that coping is a complex process which includes some combination of direct action, defensive and somatic oriented responses. A number of researchers (Hamburg & Adams, 1967; Mechanic, 1962; Penman, 1980; Sanders & Kardinal, 1977) had observed that persons who coped most effectively with a variety of stressors used a coping style which combined direct

action with defensive strategies but relied most on direct action approaches. This pattern was also observed for the subjects of the present study whether they are considered as a group or are looked at in subgroups according to sex, race, marital status, age, years of education, social class, primary presenting problem or referral source (see Table 7). Additionally, the total group and each of the subgroups used more functional somatic-oriented responses than dysfunctional somatic-oriented responses. Thus, for these subjects a coping style emerged which included a combination of coping responses used in the following order from highest to lowest frequency: direct action, functional somatic-oriented, defensive and potentially dysfunctional somatic-oriented. This pattern remained for the total group and for 28 of the 32 subgroups after combining the means of the two forms of potentially dysfunctional somatic-oriented responses so that the number of items included was equal to the number of items on the defensive and functional somatic-oriented scales. Although there are five items on the direct action subscale, compared with four items on each of the others (after combining the two potentially dysfunctional somatic-oriented subscales), one item could not have accounted for the approximate 10-point difference between mean direct action responses and the means of the next most frequently reported responses, functional somatic-oriented responses.

Despite repeated past findings that sex and SES were related to direct action and defensive response styles (Brown, 1976; Brown et al., 1975; Calhoun, 1980; Parent, 1976; Pearlin & Schooler, 1978; Penman, 1980; Tanck & Robbins, 1979; Warheit, 1979), very little of the shared variance between locus of control and coping mechanisms was

Table 7

Mean Scores on Locus of Control and Coping Response Scales

	N	Locus of Control	Direct Action	Defensive	Functional Somatic	Dysfunctional Somatic A	Dysfunctional Somatic B
	100	13.12	19.77	9.11	10.07	2.54	4.65
Sex							
Males	40	12.43	18.85	9.72	10.45	2.30	5.12
Females	60	13.58	20.38	8.70	9.82	2.70	4.33
Race							
White	92	12.85	19.61	9.20	10.09	2.52	4.59
Black	6	15.17	21.17	9.33	11.33	2.17	5.67
Hispanic	2	19.50	23.00	4.50	5.50	4.50	4.50
Marital Status							
Single	37	12.70	19.78	9.81	9.73	2.65	5.51
Married	32	12.96	19.66	7.72	10.31	1.69	3.13
Divorced	28	14.14	19.57	9.89	9.96	3.07	5.36
Widowed	3	10.33	22.67	8.00	12.67	5.33	3.67
Age							
< 30	51	12.20	20.06	9.29	10.08	2.45	5.31
30-49	37	14.60	19.62	9.03	10.30	2.16	4.57
50-65	8	10.88	19.75	8.50	8.63	4.13	3.13
> 65	4	15.75	17.50	8.75	10.75	4.00	0.00
Years of education							
< 12	20	14.80	17.60	8.15	8.50	2.15	4.70
12	27	15.37	20.19	9.26	9.60	3.30	4.93
13-15	39	10.95	20.61	9.23	11.08	2.00	4.62
≥ 16	14	12.43	19.64	9.86	10.43	3.14	4.14

Table 7 - Continued

	N	Locus of Control	Direct Action	Defensive	Functional Somatic	Dysfunctional Somatic A	Dysfunctional Somatic B
Social class							
I	2	14.50	21.00	10.50	10.50	0.50	1.50
II	5	14.20	18.40	9.80	10.20	6.40	5.60
III	25	10.56	21.08	9.08	10.96	0.88	4.00
IV	52	13.73	20.04	8.94	10.10	3.14	4.98
V	16	14.63	17.13	9.31	8.50	2.25	4.69
Problem							
Relationship	26	11.62	20.31	8.89	10.39	0.81	3.00
Depression	16	13.50	20.13	8.63	9.63	2.25	4.56
Anxiety	4	11.25	17.50	11.75	6.75	1.00	5.75
Anxiety & one other	23	12.83	19.19	9.54	9.65	3.88	5.58
Any other combination	22	15.27	19.65	9.78	10.26	3.70	4.35
Other	9	13.11	19.56	7.67	10.67	1.22	4.44
Referral Source							
Self	45	13.47	20.38	9.40	10.07	2.62	5.51
Family/friend	33	12.91	19.67	8.88	10.73	2.67	3.70
Agency	16	11.44	20.62	9.19	9.38	1.25	4.56
Physician	6	16.17	15.00	8.00	8.33	4.67	3.67

accounted for by these two variables. Table 5 summarizes the relationships between the correlational variables before the control variables are introduced, the relationships while controlling for sex, the relationships while controlling for SES and the relationships while controlling for both sex and SES simultaneously. The very small differences between the first row of coefficients, before the variance attributable to either of the control variables was removed and the forth row, after the variance contributed by both sex and SES were subtracted, indicates that sex and SES are of little importance in understanding the relationship between locus of control and coping strategies, at least for these subjects. The relatively minor influence attributable to SES may be the result of the somewhat constricted range of social class scores for these subjects. The higher social class groups, Classes I and II were grossly underrepresented with only seven subjects between the two groups. The majority of subjects fell into Classes III and IV (25 and 52, respectively) with the lowest SES group, Class V, also being underrepresented (n = 16).

Table 6 shows the correlations between sex and each of the correlational variables, between SES and each of the correlational variables and between sex and SES. There was a significant relationship between SES and direct action responses, with subjects of higher social class membership reporting more of these responses than subjects of lower SES status. There was also a significant relationship between sex and SES with males being members of higher SES groups more often than females.

The small differences between males and females on each of the coping response categories are shown in Table 7. There was a tendency

for females to use more direct action and medication responses than males and for males to use more defensive, functional somatic-oriented and potentially dysfunctional somatic-oriented--Type B (smoking and drinking alcohol) responses than females. To determine if these differences were statistically significant a series of *t* tests were run. No significant differences were found. These differences are probably due to chance and therefore, will not be discussed further.

SES differences were also small. Because Classes I and II are underrepresented (n = 2 and n = 5, respectively) their scores will not be discussed. Members of social Class III reported the highest frequency of direct action and functional somatic-oriented responses. Members of social Class IV used fewer defensive responses to stress than any other class group. Membership in SES group V was associated with the lowest frequency of direct action and functional somatic-oriented responses. There was a trend toward using fewer direct action responses as social status decreased. This trend has been observed by other researchers (Brown, 1976; Brown et al., 1975; Parent, 1976; Penman, 1980; Warheit, 1979). There was also a trend toward use of fewer functional somatic-oriented responses with decreasing social status.

Exploratory Data

Although there is a statistically significant relationship between locus of control and mechanisms for coping with stress, the correlations between these variables are small. Therefore, knowledge of one's control orientation is of limited usefulness in understanding how that person responds to stressful life experiences. This is true

even when the sex and SES of the respondent are taken into consideration. In an effort to discover other variables related to choice of coping strategies, the mean scores on each of the coping response categories were examined for subgroups based on race, marital status, age, years of education, presenting problem and referral source. The results are shown in Table 7.

Relationship of Race to Coping Mechanisms

Because minority racial groups were underrepresented in this study, mean coping responses for subgroups based on race will not be discussed.

Relationship of Marital Status to Coping Responses

Never married and divorced subjects reported more frequent use of defensive and potentially dysfunctional somatic-oriented responses (drinking alcohol and smoking) and less frequent use of functional somatic-oriented responses than married or widowed subjects. Married subjects reported the least frequent use of defensive and both types of potentially dysfunctional somatic-oriented responses. There were too few widowed subjects (n = 3) to discuss their pattern of response scores.

Relationship of Age to Coping Mechanisms

Subjects under the age of 30 reported the greatest use of direct action, defensive and potentially dysfunctional somatic-oriented responses (drinking alcohol and smoking). Subjects ranging in age from 30 through 49 reported using medication as a response to stressful events less frequently than any of the other age groups. Subjects between 50 and 65 used fewer defensive and functional somatic-oriented responses and more potentially dysfunctional somatic-oriented

--Type B responses (drinking alcohol and smoking) and the most frequent use of functional somatic-oriented responses.

Relationship of Education to Coping Mechanisms

Subjects with less than 12 years of education used fewer direct action, defensive and functional somatic-oriented responses than the other groups. Subjects with a high school education reported the greatest use of both forms of potentially dysfunctional somatic-oriented responses and the least frequent use of medication as a response to stress. Subjects with a college degree and those with graduate training reported the most frequent use of defensive responses and the least frequent use of potentially dysfunctional responses to stress.

Relationship of Presenting Problem to Coping Mechanism

Subjects who identified an interpersonal relationship as their primary problem reported the highest frequency of direct action and the lowest frequency of both types of potentially dysfunctional somatic-oriented responses. Subjects who reported that anxiety was their major problem ($n = 4$) used the fewest direct action and functional somatic-oriented responses and the most defensive and potentially dysfunctional somatic-oriented--Type B responses (drinking alcohol and smoking), the most maladaptive combination of responses for any problem type. When means were computed for subjects who reported anxiety in addition to any one other problem ($n = 23$), the pattern remained, although the differences between this group and those reporting other combinations of problems were small. Subjects reporting a problem other than interpersonal relationship, depression

or anxiety used the highest frequency of functional somatic-oriented responses and the lowest frequency of defensive responses.

Relationship of Referral Source to Coping Mechanisms

Those who referred themselves to treatment reported the highest frequency of defensive and potentially dysfunctional somatic-oriented --Type B responses. Subjects referred by a family member or friend reported the greatest frequency of functional somatic-oriented responses. Those referred by other agencies such as the courts or Health and Rehabilitative Services reported the highest frequency of direct action responses and the lowest frequency of medication taking responses. Subjects referred by family physicians reported the lowest frequency of direct action, defensive, functional somatic-oriented and drinking alcohol and smoking responses. They also reported the highest frequency of medication taking responses.

Locus of Control

Mean locus of control scores for the subjects of the present study (see Table 7) were very similar to those reported by Rosenweig (cited in Nowicki, 1979) for adult psychiatric outpatients (males, 13.18; females, 14.11). These mean scores are higher than those of nonpatient community subjects of approximately the same age (males, 10.61; females 11.43) (Nowicki, 1979). Greater externality in psychiatric clients has been observed by Brannigan et al. (1977), Duke & Mullens (1973), Joe (1971) and Nowicki (1979). The finding that females were slightly more external than males was also reported by Nowicki (1979).

Generalizability of Findings

These results can be generalized to the clients of other urban community mental health centers who serve populations which are demographically similar to the present subjects. The findings of this study should not be generalized to rural populations nor to mental health clinics whose catchment areas include large numbers of minority group members.

Implications for Counseling

Because locus of control and coping style have been found to relate to each other, therapeutic efforts to increase internality are likely to have some effect in improving coping mechanisms as well. Likewise, interventions directed toward improving coping responses will impact upon clients' beliefs regarding capacity to influence the courses of their lives.

Connolly (1980) offered some practical strategies for changing locus of control orientation. These included facilitating awareness of externality, reinforcing responsibility for oneself and helping clients generate and evaluate alternatives. An early step in changing external expectations is to identify verbal and behavioral expressions of externality and in so doing increase awareness of externality on the part of the client. When a client verbalizes expressions of blame, weakness or rigidity, as well as belief in fate, chance or wishful thinking, the therapist can take the opportunity to explore with the client the feelings of helplessness and powerlessness which are associated with these beliefs. Behaviors which give rise to these feelings can also be identified. Helping the client to identify behaviors which are deficient, to generate options and

evaluate their consequences provides a vehicle for making the client aware of both choice and control.

In regard to coping mechanisms, it is important for the therapist to be aware of how the client is presently responding to the stressful event or series of events which have resulted in seeking professional help. This information can be gained by administering an inventory such as the CRI or through asking the client what kinds of things have been done in an effort to resolve the situation. Direct action responses are increased naturally in therapy as the client discusses the problem, expresses feelings concerning it, evaluates alternatives, makes decisions and implements them. Focusing on the problem automatically decreases defensive responses which function to deny or distort the event or its personal significance. Functional somatic-oriented responses can be increased by teaching the client healthy methods of reducing the anxiety associated with coping with stressful situations. Progressive relaxation training can be incorporated into the therapy, as well as suggestions of how clients can use behaviors which they find pleasurable to relieve their present somatic discomfort. Clients can be encouraged to participate in a physical activity of their choice such as swimming, bicycling or walking. As clients use more functional somatic-oriented responses to relieve tension, use of dysfunctional ones should decrease.

These techniques to increase internality and improve coping mechanisms can be integrated in a number of therapeutic styles and theoretical approaches. Hopefully, clients will internalize these improved coping mechanisms and beliefs concerning personal mastery so that they become a part of their approach to resolution of future stressful situations.

Limitations of the Study and Suggestions for Future Research

The results of this research are based on correlational data and, therefore, provide no information concerning causation. This study was limited by the necessity of focusing on a few variables so as to make the research manageable as a dissertation project. As has been observed, coping is a complex process which is influenced by a myriad of personal, environmental and situational variables. A true understanding of the coping process will be achieved only when studies are undertaken which combine all of these variables. The present study suggests that age, marital status and type of problem may be important variables in understanding the way an individual copes with stressful events and should be considered in future research of coping mechanisms.

The findings of the present study are based on a sample of clients seen in a public clinic. They were primarily white, lower middle and upper lower class persons, less than fifty years of age who reside in an urban community. Before these findings can be generalized to other clinical populations who differ significantly on demographic variables, additional research is needed. Research which focuses on nonpsychiatric populations is also needed to understand the coping process in psychologically healthy individuals. Additionally, outcome studies must be undertaken to determine if therapeutic interventions which are directed toward changing external expectancies and improving coping skills can achieve these results more cost effectively than other therapies without such a focus.

Summary of Study

A study of the relationship between locus of control and mechanisms for coping with stressful life events was conducted with 100 male and female community mental health outpatient clients serving as subjects. At the end of the initial intake interview, each of the five outpatient therapists, including the researcher, asked new clients who were judged to be nonpsychotic and who had not received counseling during the preceding 6 months to participate in the research. Those who indicated their willingness to participate by signing a statement of informed consent were given a packet containing a demographic data form, the CRI, a 24-item rating scale developed by the researcher to measure behavior engaged in as a response to stressful situations and the ANS-IE, a 40-item measure of locus of control orientation. Five subjects who were asked to participate declined to do so. Another seven subjects who agreed to take part in the study did not return their questionnaires. Five more subjects were dropped from the analysis because of failure to respond to all the questions.

A partial correlation analysis was conducted using the SPSS subprogram Partial Corr to assess the linear relationship between the independent variable, locus of control, and each of five dependent variables--direct action, defensive, functional somatic-oriented and two forms of potentially dysfunctional somatic-oriented coping responses. Sex and SES, two variables which have been shown to relate to coping behavior, were defined as control variables and their linear effects removed from both the independent variable and the dependent variables.

It was hypothesized that internality was related to effective coping behavior and that externality was related to maladaptive coping. Specifically, a statistically significant positive linear relationship was predicted between internality and choice of direct action and functional somatic-oriented responses to stressful events and a negative linear relationship was predicted between internality and use of defensive and potentially dysfunctional somatic-oriented responses. Externality was predicted to covary positively with defensive and potentially dysfunctional somatic-oriented responses and negatively with direct action and functional somatic-oriented responses. The hypothesized relationships were observed between locus of control and direct action, defensive, functional somatic-oriented responses and between locus of control and one of two types of potentially dysfunctional somatic-oriented responses. The correlation between locus of control and a second form of potentially dysfunctional somatic-oriented response was not found to be statistically significant. Sex and SES were found to contribute little to the relationship between locus of control and coping mechanisms, although there was a tendency for persons of higher SES to use more direct action responses and for males to be members of higher social class groups more often than females.

The rather low correlations between locus of control and coping responses indicated that although a person's belief concerning ability to influence outcomes is a factor related to the choice of response to a stressful event, it is not a major one. Other factors not included in the main hypotheses of the study which appeared to influence coping style were marital status, age and the type of problem a person was coping with. Married individuals used more functional somatic-oriented

and fewer defensive and potentially dysfunctional somatic-oriented responses than never married or separated/divorced subjects. Younger subjects took less medication and drank alcohol and smoked more in response to stressful situations than older subjects. Persons who identified anxiety as their major reason for seeking counseling evidenced a maladaptive coping response pattern, which included low frequencies of direct action and functional somatic-oriented responses and high frequencies of defensive and potentially dysfunctional somatic-oriented responses compared to subjects reporting other problems.

APPENDIX A
QUESTIONNAIRES

ANS-IE

PLEASE INDICATE YOUR ANSWER BY PLACING A CHECK IN THE APPROPRIATE BLANK TO THE RIGHT OF EACH QUESTION. MAKE SURE THAT YOU ANSWER EVERY QUESTION.

	YES	NO
1. Do you believe that most problems will solve themselves if you just don't fool with them?	_____	_____
2. Do you believe that you can stop yourself from catching a cold?	_____	_____
3. Are some people just born lucky?	_____	_____
4. Most of the time did you feel that getting good grades meant a great deal to you?	_____	_____
5. Are you often blamed for things that just aren't your fault?	_____	_____
6. Do you believe that if somebody studies hard enough he or she can pass any subject?	_____	_____
7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?	_____	_____
8. Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do?	_____	_____
9. Do you feel that most of the time parents listen to what their children have to say?	_____	_____
10. Do you believe that wishing can make good things happen?	_____	_____
11. When you get punished does it usually seem it's for no good reason at all?	_____	_____
12. Most of the time do you find it hard to change a friend's (mind) opinion?	_____	_____
13. Do you think that cheering more than luck helps a team to win?	_____	_____

ANS-IE

		YES	NO
14.	Did you feel that it was nearly impossible to change your parent's mind about anything?	_____	_____
15.	Do you believe that parents should allow children to make most of their own decisions?	_____	_____
16.	Do you feel that when you do something wrong there's very little you can do to make it right?	_____	_____
17.	Do you believe that most people are just born good at sports?	_____	_____
18.	Are most of the other people your age stronger than you are?	_____	_____
19.	Do you feel that one of the best ways to handle most problems is just not to think about them?	_____	_____
20.	Do you feel that you have a lot of choice in deciding whom your friends are?	_____	_____
21.	If you find a four leaf clover, do you believe that it might bring you good luck?	_____	_____
22.	Did you often feel that whether or not you did your homework had much to do with what kind of grades you got?	_____	_____
23.	Do you feel that when a person is angry at you, there's little you can do to stop him or her?	_____	_____
24.	Have you ever had a good luck charm?	_____	_____
25.	Do you believe that whether or not people like you depends on how you act?	_____	_____
26.	Did your parents usually help you if you asked them to?	_____	_____
27.	Have you felt that when people were angry with you it was usually for no reason at all?	_____	_____

ANS-IE

		YES	NO
28.	Most of the time, do you feel that you can change what might happen tomorrow by what you do today?	_____	_____
29.	Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?	_____	_____
30.	Do you think that people can get their own way if they just keep trying?	_____	_____
31.	Most of the time do you find it useless to try to get your own way at home?	_____	_____
32.	Do you feel that when good things happen they happen because of hard work?	_____	_____
33.	Do you feel that when somebody wants to be your enemy there's little you can do to change matters?	_____	_____
34.	Do you feel that it's easy to get friends to do what you want them to do?	_____	_____
35.	Do you usually feel that you have little to say about what you get to eat at home?	_____	_____
36.	Do you feel that when someone doesn't like you there's little you can do about it?	_____	_____
37.	Did you usually feel that it was almost useless to try in school because most other children were just plain smarter than you were?	_____	_____
38.	Are you the kind of person who believes that planning ahead makes things turn out better?	_____	_____
39.	Most of the time do you feel that you have little to say about what your family decides to do?	_____	_____

ANS-IE

	YES	NO
40. Do you think it's better to be smart than to be lucky?	_____	_____

END

Please check to see if you have answered all questions.

THANK YOU FOR YOUR PARTICIPATION.

When you have a problem which makes you feel tense or upset, what things do you do to try to diminish or relieve these feelings? Please rate each statement listed below by placing an X over the word in the rating scale which most closely describes your behavior. Make sure you rate every statement--DO NOT OMIT ANY.

1. TALK THE PROBLEM OVER WITH A FRIEND OR FAMILY MEMBER.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

2. FOCUS ON THE CONCERNS OF OTHERS INSTEAD OF MY PROBLEM.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

3. TRY TO RELAX OR REST.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

4. TRY ANALYZING THE PROBLEM.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

5. TAKE TRANQUILIZING MEDICINES.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

6. READ OR LISTEN TO MUSIC.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

7. DECIDE THAT THE PROBLEM DOESN'T REALLY AFFECT ME.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

8. FIND OUT EVERYTHING I CAN ABOUT THE SITUATION.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

9. SLEEP A LOT.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

10. BELIEVE THAT THINGS WILL TAKE CARE OF THEMSELVES.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

11. EXERCISE--TAKE A WALK, JOG, SWIM, DANCE.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

12. DRINK MORE ALCOHOL.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

13. GARDEN OR WORK IN THE YARD.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

14. SMOKE MORE.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

15. IGNORE THE PROBLEM.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

16. READ ABOUT HOW OTHERS HAVE SOLVED SIMILAR PROBLEMS.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

17. TAKE A HOT BATH OR SHOWER.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

18. CONSIDER ALL OF THE ALTERNATIVES.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

19. DO SOME WORK WITH MY HANDS (SEW, PAINT, DO CARPENTRY, ETC.).

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

20. GET AWAY FROM THE PROBLEM BY WATCHING T.V.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

21. EAT MORE.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

22. TRY TO MAKE A DECISION.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

23. TAKE SLEEPING MEDICINES.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

24. DAYDREAM OR THINK ABOUT MORE PLEASANT THINGS.

NEVER	ALMOST NEVER	RARELY	SOMETIMES	USUALLY	ALMOST ALWAYS	ALWAYS

APPENDIX B
DEMOGRAPHIC DATA FORM

DEMOGRAPHIC DATA FORM

INSTRUCTIONS

The following questionnaires are to be used in a study of the ways that people cope with stressful situations. These forms do not contain your name and will be seen only by the researcher. When you have completed these forms, please drop them in the box marked "Questionnaires" which is located on the table in the reception area of the front lobby.

IMPORTANT: Be sure to answer every question--DO NOT OMIT ANY.

_____Age _____ Male _____ Female _____Years of Education

_____ Caucasian _____ Negro _____Hispanic

Marital Status:

_____ Never Married _____Separated or Divorced

_____ Married _____Widowed

Occupation: (ANSWER EVEN IF YOU ARE NOT PRESENTLY EMPLOYED)

_____

Type of problem for which you requested counseling:

_____ Interpersonal relationship (problem with spouse, boyfriend/girlfriend, family member, roommate, friend, etc.)

_____ Depression

_____ Anxiety

_____ Other (Specify) _____

Who referred you to the Center?

_____ Self

_____ Family member or friend

_____ Another agency (e.g. HRS, Parent Child Study Center, etc.)

_____ Family physician

APPENDIX C
INFORMED CONSENT FORM

INFORMED CONSENT

I am conducting a study to determine the relationship between personality characteristics and the ways that people cope with stressful situations. I would like you to fill out three questionnaires which will be given to you by your therapist and deposit them in the box marked "Questionnaires" which is located on the table in the reception area of the front lobby. Your name will not appear on the questionnaires nor will they be made a part of your record. It is hoped that the information gained from this study will enable us to better understand the coping process and to provide counseling services which most effectively meet the needs of those who seek professional help in dealing with stressful life events.

Your participation in this study is voluntary. No monetary compensation will be given. You are free to withdraw your consent and to discontinue participation at any time without prejudice. I will be happy to answer any questions that you have concerning the questionnaires.

If you would like to take part in the research described above, please sign this form and return it to your therapist.

"I have read and I understand the procedure described above. I agree to participate in the procedure and I have received a copy of this description."

Signatures:

Subject	Date	Witness	Date
Relationship if other than subject	Date	Margie Stevenson 506 Gale Place West Palm Beach, FL	Date

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BIOGRAPHICAL SKETCH

Margie K. Stevenson was born on August 16, 1939, in New Orleans, Louisiana. She received the Bachelor of Arts degree from the University of Florida with a major in psychology in August, 1975. She and her husband have two children, Michael and Pamela.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Theodore Landsman, Chairman
Professor of Counselor Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Ruth H. Alexander
Professor of Physical Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

James Algina
Associate Professor of Foundations of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

David Suchman

David Suchman
Associate Professor of Psychology

This dissertation was submitted to the Graduate Faculty of the Department of Counselor Education in the College of Education and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December, 1982

Dean for Graduate Studies and
Research